Kundendienst-Handbuch
Service Manual

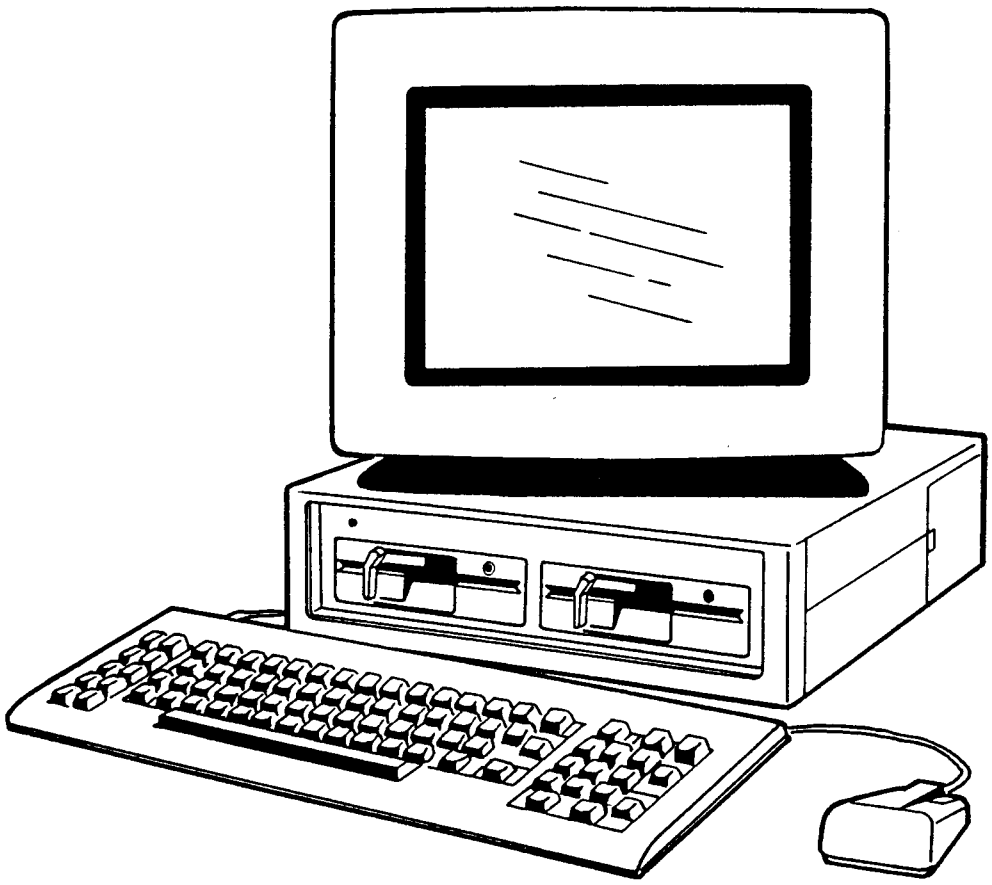
Schneider
COMPUTER DIVISION

PERSONAL COMPUTER
PC-1512 DD/PC-1512 SD

Ident-Nr.: 27452 **Ident-Nr.: 27451**

MONITOR
PC-MM/PC-CM

Ident-Nr.: 33632 **Ident-Nr.: 33631**

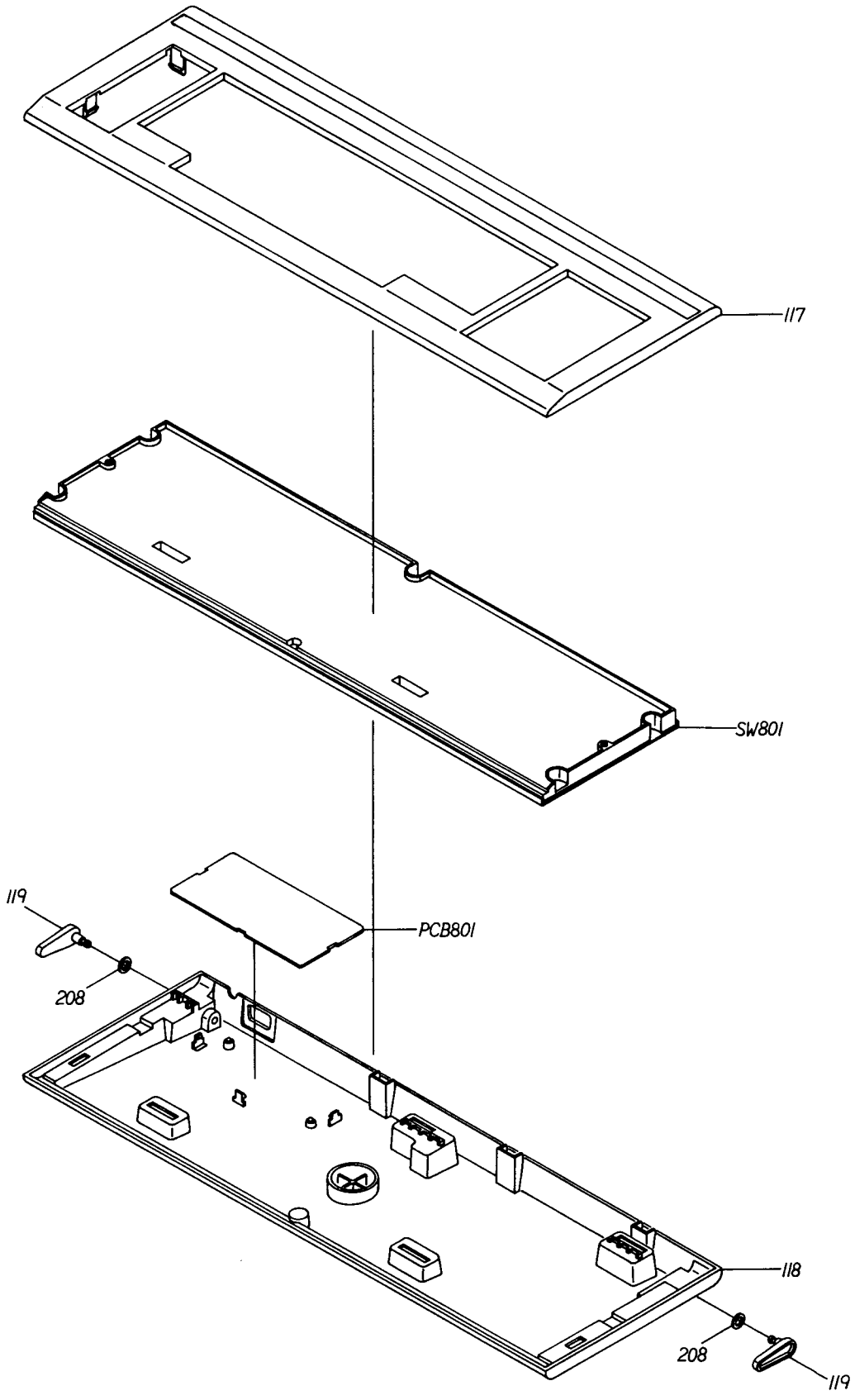


Ersatzteilliste für PC 1512 DD / PC 1512 SD
Parts List for Model PC 1512 DD / PC 1512 SD

Best.-Nr. Part-No.	Bezeichnung	Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
3471100-424	Abdeckung Slot	LID, PCB	702KPA0119	101
3471200-3337	Kontaktfeder	TERMINAL, BATTERY	773KUE0002	102
3471300-3337	Kontaktfeder	PLATE, SPRING	773KUA0001	103
3471400-4191	Winkel	PLATE, EARTH CPU	753KSA0006	104
3471500-424	Abdeckung	SCREW CAP	737KPA0012	105
3471600-424	Gehäuse Oberteil	CABINET, TOP	702KPA0104	106
3471700-4196	Rahmen FDD 1	FRAME, FDD	761KSA0106	107
3471800-431	Frontrahmen 1512 DD	CABINET, FRONT ASS'Y	A21207723	108
3471900-431	Frontplatte 1512 DD	PANEL, FRONT	711KPJ0018	
3472000-436	Schild Name 1512 DD	PLATE, BRAND	7232530028	
3472100-431	Frontrahmen 1512 SD	CABINET, FRONT ASS'Y	A21206723	
3472200-431	Frontplatte 1512 SD	PANEL, FRONT	711KPJ0019	
3472300-436	Schild Name 1512 SD	PLATE, BRAND	7232530027	
3472400-436	Schild SD	PLATE, DECORATION	7230001346	
3472500-436	Schild SD	SHEET, FDD	7230001483	
3472600-436	Schild SD	SHEET, DOUBLE FACE	7230001492	
3472700-4196	Abschirmblech Oberteil	PLATE, SHIELD TOP	752KSA0076	109
3472800-4196	Abschirmblech Boden	PLATE, SHIELD BOTTOM	752KSA0077	110
3472900-4195	Winkel	PLATE, JACK EARTH	753KUA0002	111
3473000-4281	Knopf Dreh	KNOB, VOLUME	732KPA0022	112
3473100-423	Gehäuse Boden	CABINET, BOTTOM ASS'Y	A21207733	113
3473200-4151	Gummifüße	LEG RUBBER	704JRA0005	
3473300-4361	Typenschild 1512 DD	SHEET, RATING	7220000301	
3473400-4361	Typenschild 1512 SD	SHEET, RATING	7220000302	
3473500-436	Schild	SHEET, JACK (A)	7230001454	
3473600-436	Schild	SHEET, JACK (B)	7230001455	
3473700-436	Schild	SHEET, JACK (C)	7230001456	
3473800-424	Abdeckung Schnittstelle	LID, JACK	702KPA0120	114
3473900-424	Gehäuse Oberteil	CABINET, TOP	702KPA0121	117
3474000-436	Schild Name	PLATE, BRAND	7232530029	
3474100-423	Gehäuse Boden	CABINET, BOTTOM	702KPA0122	118
3474200-4151	Gummifüße	LEG RUBBER	704JRA0004	
3474300-4361	Typenschild	SHEET, RATING	7220000300	
3474400-424	Kunststoffüße	STAND, KEYBOARD	704KPA0014	119
3474500-4196	Rahmen FDD 2	FRAME, FDD (2ND)	761KSA0107	120
3474600-4013	Schraube m 3×6	SEMS (A) M 3× 6 CH	810A130604	201
3474700-4043	Schraube m 4×60	TAP TITE (P) M 4×60 CH	8110640F01	204
3474800-4043	Schraube m 3×55	TAPPING (B0) BIND 3×55 CH	8116230E54	205
3474900-4043	Schraube m 4×40	TAP TITE (P) BIND 4×40 CH	8110240D04	206
3475000-3391	Masseband	EARTH LUG (B6) 4.2	901B06000K	207
3475100-4081	Scheibe	WASHER 6.3×10.5×T0.15	82C60A0B5U	208
3475200-3391	Masseband	EARTH LUG (B4) 3.2	901B04000K	210
3475300-214	Folienbeutel	POLY BAG, SET	791KHA0046	
3475400-214	Folienbeutel	POLY BAG, SET	791KHA0047	
3475500-213	Styropor links	PACKAGE, LEFT	792KHA0079	
3475600-213	Styropor rechts	PACKAGE, RIGHT	792KHA0080	
3475700-213	Styropor links	PACKAGE, LEFT	792KHA0085	
3475800-213	Styropor rechts	PACKAGE, RIGHT	792KHA0086	
3475900-212	Faltkarton DD	GIFT BOX	793KCD0235	
3476000-212	Faltkarton SD	GIFT BOX	793KCD0234	

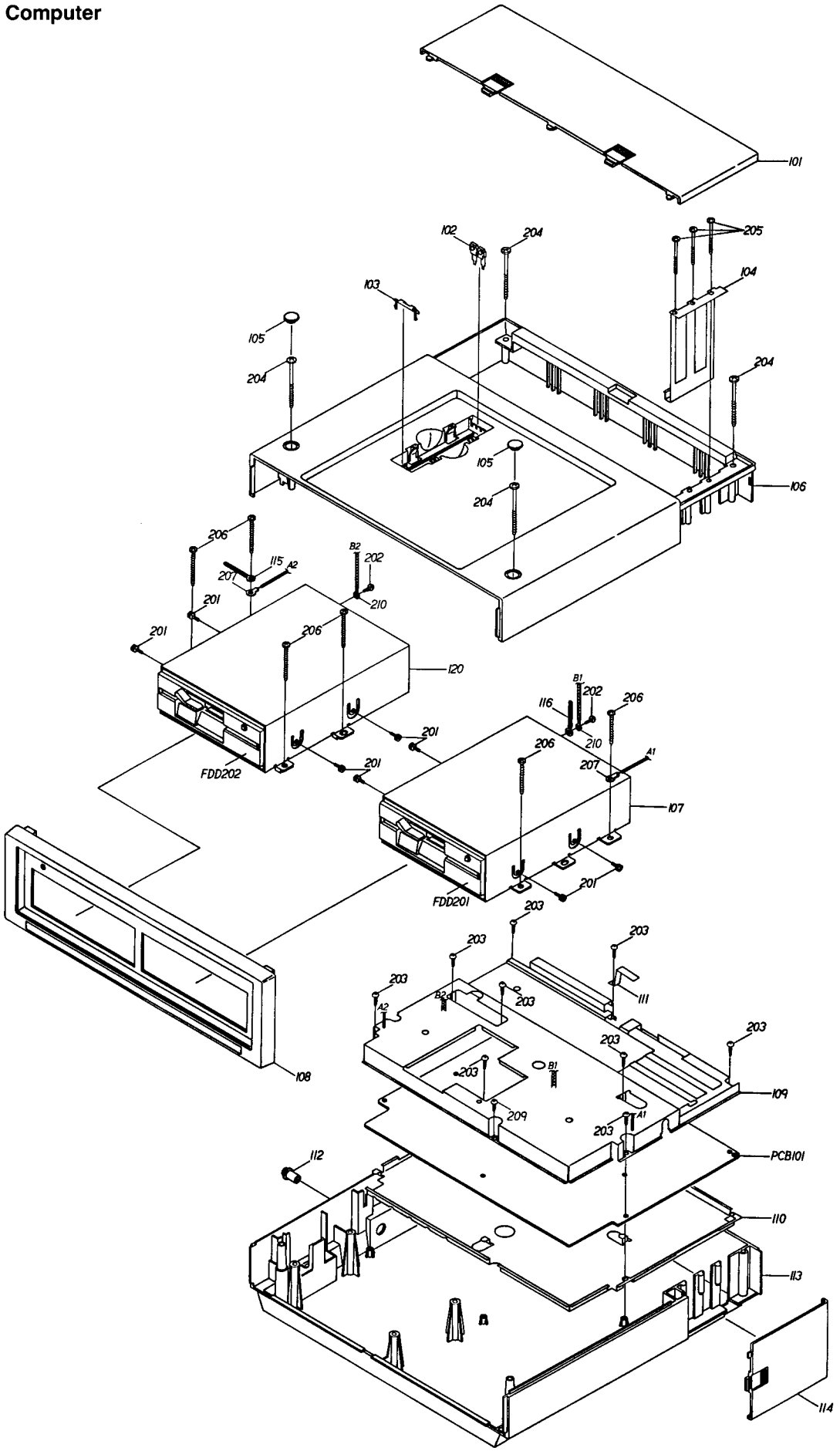
Mechanical exploded view

Keyboard



Mechanical exploded view

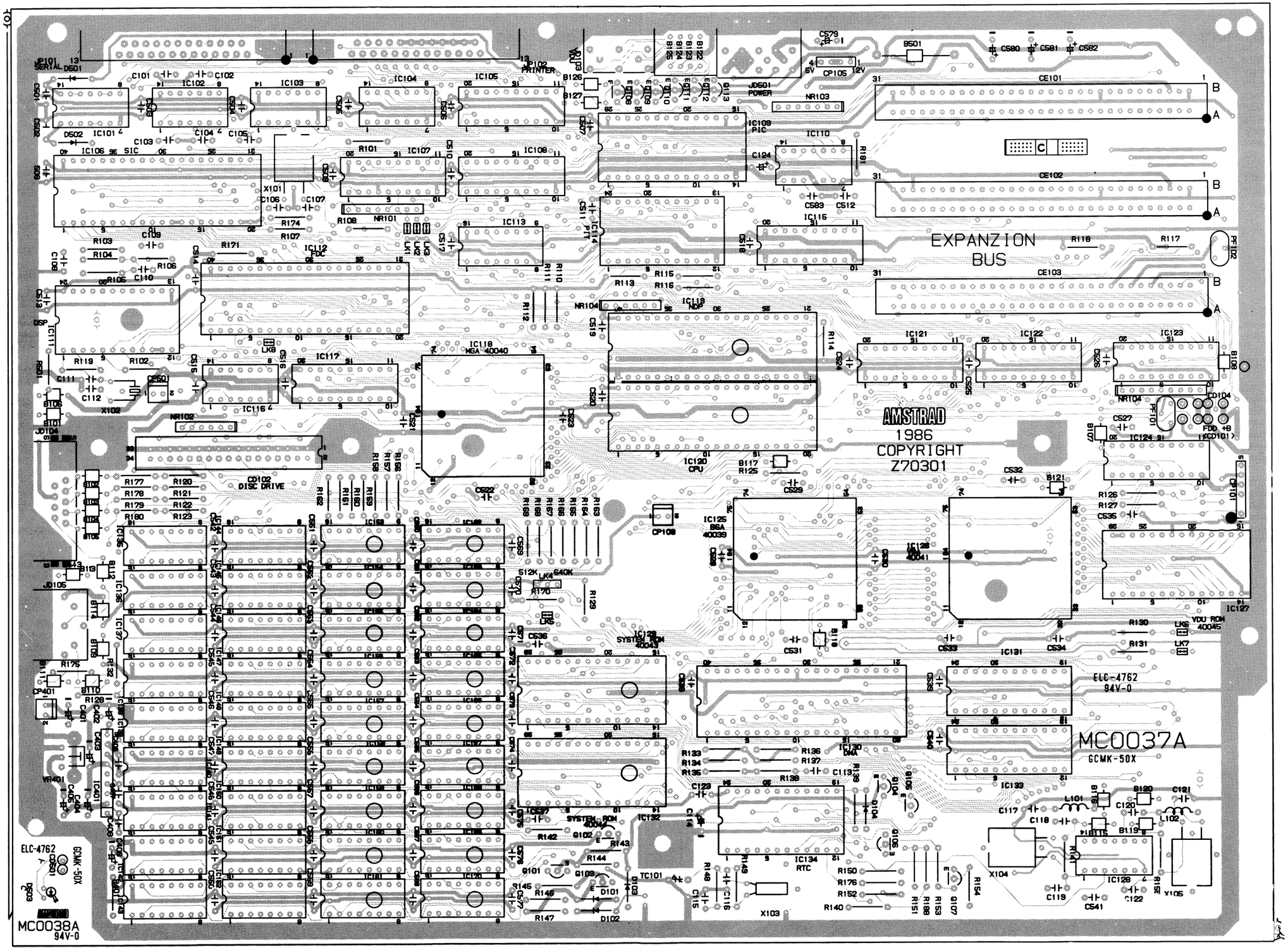
Computer



Ersatzteilliste für PC 1512 DD / PC 1512 SD
Parts List for Model PC 1512 DD / PC 1512 SD

Best.-Nr. Part-No.	Bezeichnung		Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
IC					
3476200-302	IC	MC1488P	IC	16PDC14880	IC101
3476300-302	IC	MC1489AP	IC	16PDC14890	IC102
3476300-302	IC	MC1489AP	IC	16PDC14890	IC103
1524100-302	IC	HD7406P	IC	164D7406P0	IC104
2635300-302	IC	DN74LS373	IC	161DLS3730	IC105
3476400-302	IC	INS8250N	IC	14DDS82500	IC106
3476500-302	IC	DN74LS240P	IC	161DLS2400	IC107
2635400-302	IC	DN74LS244	IC	161DLS2440	IC108
3476600-302	IC	MBL8259A-2P	IC	14QDL82590	IC109
3476700-302	IC	DN74LS125P	IC	161DLS1250	IC110
3239900-302	IC	SED9420CAC	IC	16ZD094200	IC111
2922000-302	IC	Z765APS	IC	14SDZ765A0	IC112
3476800-302	IC	DN74LS174P	IC	161DLS1740	IC113
3476900-302	IC	UPD8253C-5	IC	142DD82530	IC114
2635400-302	IC	DN74LS244	IC	161DLS2440	IC115
3216700-302	IC	DN74LS14P	IC	161D4LS140	IC116
2922200-302	IC	TC74HC240P	IC	155DHC2400	IC117
3477000-302	IC	HSG5140	IC	18WP400400	IC118
3477100-302	IC	MBL8086-2P	IC	14QDL80860	IC120
2635400-302	IC	DN74LS244	IC	161DLS2440	IC121
2635300-302	IC	DN74LS373	IC	161DLS3730	IC122
3477200-302	IC	DN74LS245P	IC	161DLS2450	IC123
2635400-302	IC	DN74LS244	IC	161DLS2440	IC124
3477300-302	IC	HSG5140	IC	18WP400390	IC125
3477400-302	IC	HSG5420	IC	18WP400410	IC126
3477500-302	IC	LH236901	IC	14GD400450	IC127
2981600-302	IC	TC74HCU04P	IC	155DHCU04D	IC128
3477600-302	IC	MSM3864B01RS	IC	149D400430	IC129
3477700-302	IC	UPD8237AC-5	IC	142DD82370	IC130
3477800-302	IC	UPD41264C-15	IC	142D412640	IC131
3477900-302	IC	MSM3864B02RS	IC	149D400440	IC132
3478000-302	IC	UPD41264C-15	IC	142D412640	IC133
3478100-302	IC	MC146818P	IC	15PD468180	IC134
3478200-302	IC	MN41256-15	IC	141D41256C	IC135
3478200-302	IC	MN41256-15	IC	141D41256C	IC136
3478200-302	IC	MN41256-15	IC	141D41256C	IC137
3478200-302	IC	MN41256-15	IC	141D41256C	IC138
3478200-302	IC	MN41256-15	IC	141D41256C	IC139
3478200-302	IC	MN41256-15	IC	141D41256C	IC140
3478200-302	IC	MN41256-15	IC	141D41256C	IC141
3478200-302	IC	MN41256-15	IC	141D41256C	IC142
3478200-302	IC	MN41256-15	IC	141D41256C	IC143
3478200-302	IC	MN41256-15	IC	141D41256C	IC144
3478200-302	IC	MN41256-15	IC	141D41256C	IC145
3478200-302	IC	MN41256-15	IC	141D41256C	IC146
3478200-302	IC	MN41256-15	IC	141D41256C	IC147
3478200-302	IC	MN41256-15	IC	141D41256C	IC148
3478200-302	IC	MN41256-15	IC	141D41256C	IC149
3478200-302	IC	MN41256-15	IC	141D41256C	IC150
3478200-302	IC	MN41256-15	IC	141D41256C	IC151
3478200-302	IC	MN41256-15	IC	141D41256C	IC152
2635800-302	IC	LA4140	IC	103SP41400	IC401
3478300-302	IC	UPD8048HC PC	IC	142D400420	IC801
3201300-302	IC	TC74HC14P	IC	155D4HC140	IC802

CPU P.C.B.

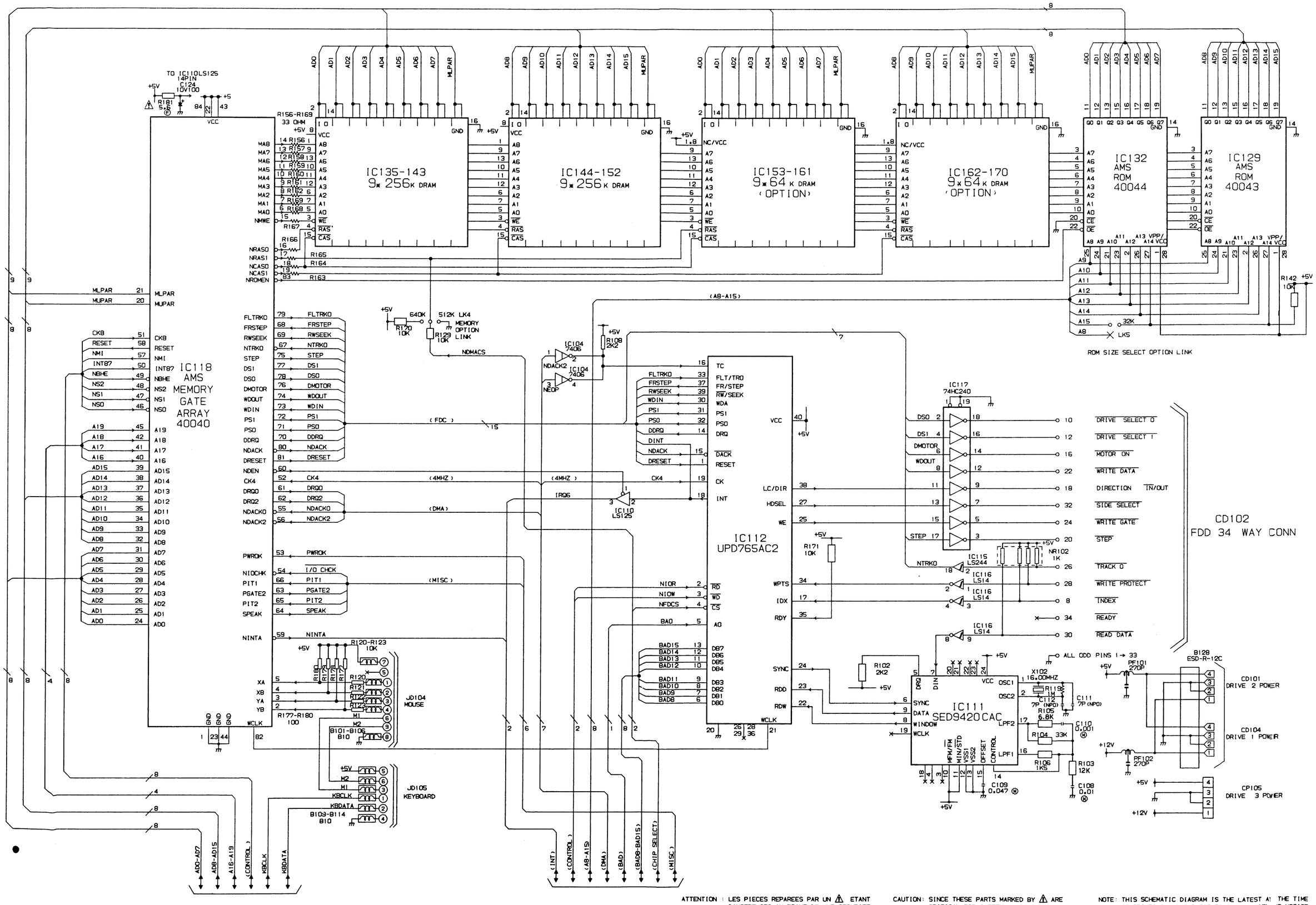

EXPANZION
BUS
AMSTRAD
1986
COPYRIGHT
Z70301
MC0037A
GCMK-50X
ELC-4762
94V-0
MC0038A
94V-0
ELC-4762
GCMK-50X
IC101 SERIAL
DS01
CP102 PRINTER
JDS01 POWER
CP105
B501
CE101
CE102
CE103
IC106 SIC
IC109 PIC
IC110
IC112 FDC
IC115 PIT
IC116 MGA 40040
IC118 MGA 40040
IC119 NDP
IC120 CPU
IC121
IC122
IC123
IC124
IC125 BGA 40039
IC126 BGA 40041
IC127
IC128 SYSTEM ROM 40044
IC129 SYSTEM ROM 40044
IC130 DAA
IC131
IC132
IC133
IC134 RTC
VDU ROM 40045
CD102 DISC DRIVE
CD104
FDD +B (CD101)
PF101
PF102
X101
X102
X103
X104
X105
LK3
LK4 640K
LK5
LK6
LK7
LK8
512K
TC101
TC401
VR401
CP401
JD104
JD105
JD106

Best.-Nr. Part-No.	Bezeichnung		Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
Transistoren / Transistors					
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q101
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q102
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q103
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q104
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q105
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q106
2635900-301	Transistor	KTC2120 O	TRANSISTOR, SILICON	TCAT021203	Q108
2635900-301	Transistor	KTC2120 O	TRANSISTOR, SILICON	TCAT021203	Q109
2635900-301	Transistor	KTC2120 O	TRANSISTOR, SILICON	TCAT021203	Q110
2635900-301	Transistor	KTC2120 O	TRANSISTOR, SILICON	TCA0021203	Q111
2635900-301	Transistor	KTC2120 O	TRANSISTOR, SILICON	TCAT021203	Q112
2635900-301	Transistor	KTC2120 O	TRANSISTOR, SILICON	TCAT021203	Q113
Dioden / Diodes					
2655500-3041	Diode	DS442X-BT	DIODE, SILICON	D13TDS442X	D101
2655500-3041	Diode	DS442X-BT	DIODE, SILICON	D13TDS442X	D102
2655500-3041	Diode	DS442X-BT	DIODE, SILICON	D13TDS442X	D103
2655500-3041	Diode	DS442X-BT	DIODE, SILICON	D13TDS442X	D104
0320800-304	Diode	KDS1555-T	DIODE, SILICON	D1AT015550	D105
2655500-3041	Diode	DS442X-BT	DIODE, SILICON	D13TDS442X	D501
2655500-3041	Diode	DS442X-BT	DIODE, SILICON	D13TDS442X	D502
1209800-3045	LED	TLS134A	LED	0021520130	D503
Widerstände / Resistors					
3478400-3217	Sich.-Widerstand	5.6 ¼ W	R, FUSE	R615845R6J	R181
1007300-318	Widerstand	1.0 K ¼ W	RC	R0D104102J	R189
1007300-318	Widerstand	1.0 K ¼ W	RC	R0D104102J	R190
1007300-318	Widerstand	1.0 K ¼ W	RC	R0D104102J	R191
1007300-318	Widerstand	1.0 K ¼ W	RC	R0D104102J	R192
1007300-318	Widerstand	1.0 K ¼ W	RC	R0D104102J	R193
1007300-318	Widerstand	1.0 K ¼ W	RC	R0D104102J	R194
3206300-3219	Widerstand/Netzwerk	RGLN7X472J	R, NETWORK	1102747203	NR101
3478500-3219	Widerstand/Netzwerk	RGLN5X102J	R, NETWORK	1102510202	NR102
3478600-3219	Widerstand/Netzwerk	RGLN6X222J	R, NETWORK	1102622202	NR103
3478700-3219	Widerstand/Netzwerk	RGLN5X222J	R, NETWORK	1102522202	NR104
3206400-3219	Widerstand/Netzwerk	RGLN8X472J	R, NETWORK	1102847204	NR105
3478800-3219	Widerstand/Netzwerk	RGLN10X103J	R, NETWORK	1102A10302	NR801
3478900-3221	Poti	EVU-E2AF15B24	VOLUME	V018024B02	VR401

Ersatzteilliste für PC 1512 DD / PC 1512 SD
Parts List for Model PC 1512 DD / PC 1512 SD

Best.-Nr. Part-No.	Bezeichnung		Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
Spulen und Transformatoren / Coils and Transformer					
3202300-3251	Spule	LAL03KH2R2M	COIL INDUCTOR	021JB22R2M	L101
3202300-3251	Spule	LAL03KH2R2M	COIL INDUCTOR	021JB22R2M	L102
3479000-3253	Filter	DSS310-54B271M	FILTER EMI	1162L271M3	PF101
3479000-3253	Filter	DSS310-54B271M	FILTER EMI	1162L271M3	PF102
Verschiedenes / Miscellaneous					
3479100-3259	Quarz	HC49U.843M	CRYSTAL	10061R8401	X101
3254100-3253	Keramikoszillator	CSA16.00MX7	CERAMIC OSCILLATOR	100216R004	X102
3479200-3259	Quarz	DSVT30032K	CRYSTAL	1006R03201	X103
3479300-3259	Quarz	HC18RW24.0	CRYSTAL	100E24R002	X104
3479400-3259	Quarz	HC18RW28.636	CRYSTAL	100E28R602	X105
3479500-3171	Keramikoszillator	KBR-6.0M	CERAMIC OSCILLATOR	10036R0002	X801
3479600-3171	Keramiktrimmer		TRIMMER CERAMIC	0100512009	TC101
3479700-680	Lautsprecher		SPEAKER	070B020002	SP401
3479800-3276	Tastatur	ESU-2435	SWITCH, KEYBOARD	0506185005	SW801
3479900-502	Platine	MC0037A	PCB	13MC0037A6	PCB101
3480000-502	Platine CPU	MC0038A	PCB	13MC0038A6	PCB102
3480100-502	Platine Tastatur	MK0002A	PCB	13MK0002AB	PCB801
3480200-502	Floppy Disc Laufwerk 5¼"		COMPACT FLOPPY DISK DRIVE	160651002A	FDD201
3480300-502	Floppy Disc Laufwerk 5¼"		COMPACT FLOPPY DISK DRIVE	160651003A	FDD202
3480400-333	Buchse Expansion		SOCKET D-SUB 475-31-30-042	069LN62001	CE101
3480400-333	Buchse Expansion		SOCKET D-SUB 475-31-30-042	069LN62001	CE102
3480400-333	Buchse Expansion		SOCKET D-SUB 475-31-30-042	069LN62001	CE103
3480500-333	Buchse SUB-D	25pol. Drucker	SOCKET D-SUB	063L100008	JD102
3480700-3322	Buchse DMW	8pol. VDU	JACK DIN	0622780002	JD103
3480600-333	Buchse SUB-D	9pol. Maus	SOCKET D-SUB	063L100009	JD104
2636400-3322	Buchse DIN	6pol. Tastatur	JACK DIN	0622760001	JD105
3480800-3322	Buchse DIN	14pol. Power	JACK DIN	06227E0001	JD501
3480900-333	Stecker SUB-D	25pol. Seriell	SOCKET D-SUB	063L200007	JP101
2636500-3322	Buchse SUB-D	9pol. Joystick	SOCKET D-SUB	063L200009	J801
3481000-341	Kabel Power		MATE N LOK	068GI15001	CD101
3481100-341	Kabel Disc Drive		CORD CONNECTOR	068W6Y005A	CD102
3481200-341	Kabel Power		MATE N LOK	068GI33002	CD104
3481300-341	Kabel Tastatur		DIN CORD	068GE47001	CD801
3481400-333	Buchse	6pol.	CONNECTOR PCB SIDE	0694160059	CP801
3481500-333	Buchse	11pol.	CONNECTOR PCB SIDE	06956B0010	CP802
3481500-333	Buchse	11pol.	CONNECTOR PCB SIDE	06356B0010	CP803
2305200-3327	IC Sockel	28pol.	SOCKET, IC	0675128002	J102
0605000-3327	IC Sockel	16pol.	SOCKET, IC	0675116002	J103
2383400-3327	IC Sockel	40pol.	SOCKET, IC	0675140002	J122

Chassis schematic diagram

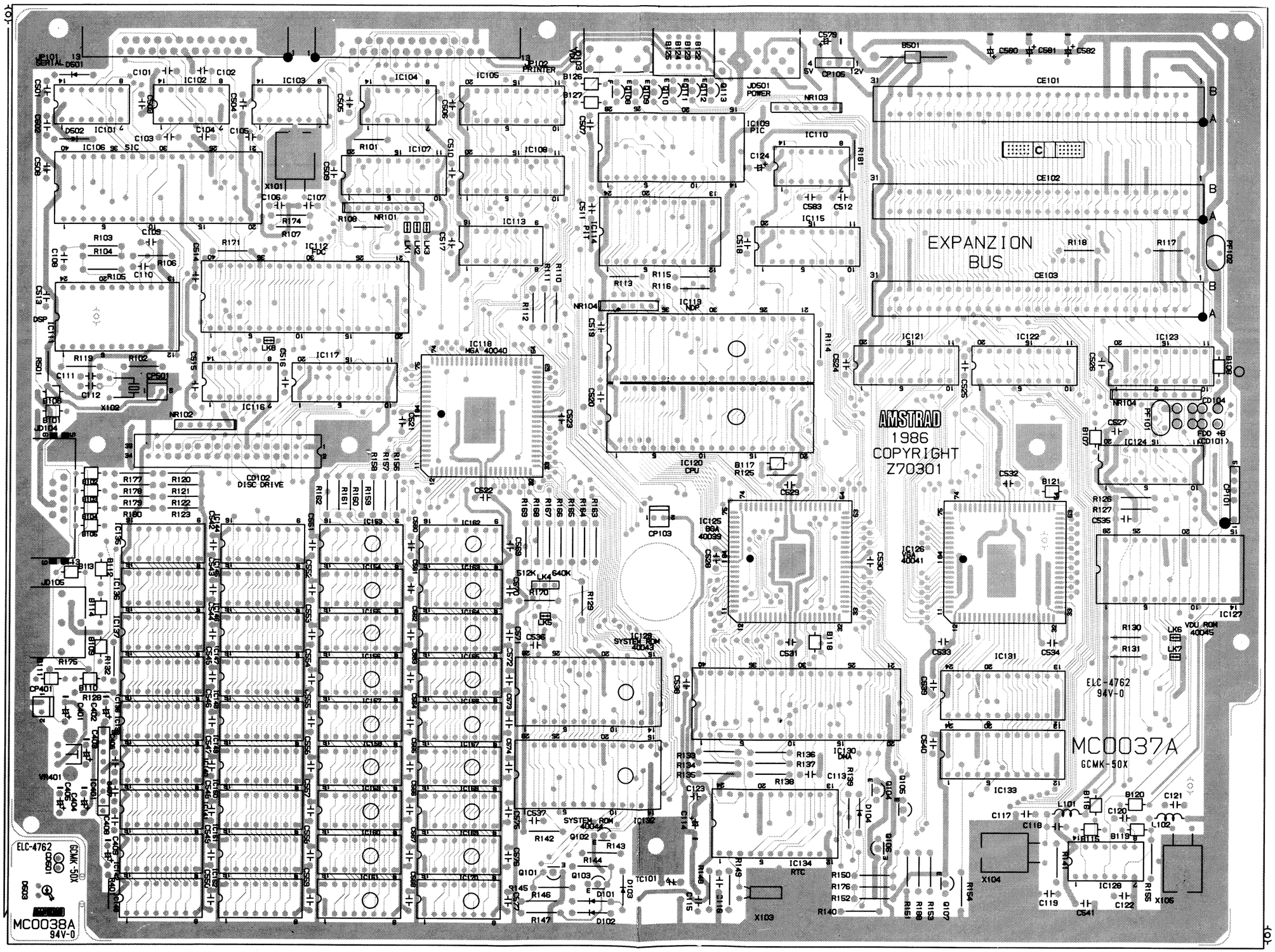


ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.

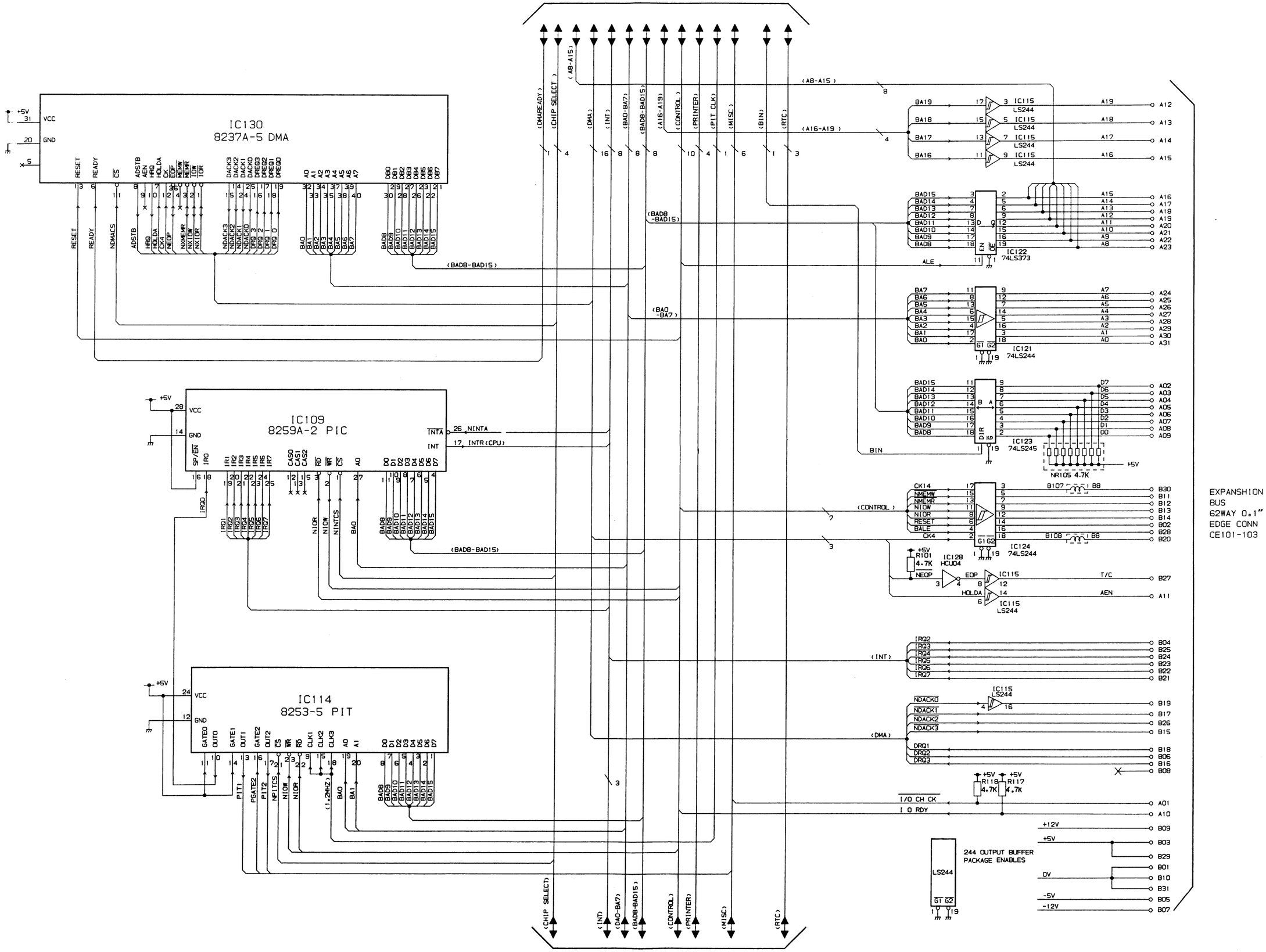
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CPU P.C.B.


EXPANZION
BUS
AMSTRAD
1986
COPYRIGHT
Z70301
MC0037A
GCMK-50X
ELC-4762
94V-0
MC0038A
94V-0
ELC-4762
GCMK-50X
IC120
CPU
IC118
MGA 40040
IC125
BOA
40039
IC126
40041
IC128
SYSTEM ROM
40043
IC132
SYSTEM ROM
40044
IC130
DMA
IC131
IC133
IC134
RTC
IC135
IC136
IC137
IC109
PIC
IC110
IC112
FDC
IC113
IC114
NDP
IC115
IC116
IC117
IC121
IC122
IC123
IC124
IC127
VDU ROM
40045
IC101
SERIAL
IC102
PRINTER
IC103
IC104
IC105
IC106
SIC
IC107
IC108
JD501
POWER
CP105
5V
12V
BS01
CE101
CE102
CE103
CD102
DISC DRIVE
CD104
PDD +B
CD101
CP101
CP103
CP401
CP501
X101
X102
X103
X104
X105
X106
NR101
NR102
NR103
NR104
LK1
LK2
LK3
LK4
LK5
LK6
LK7
LK8
640K
512K
PF101
PF102

Chassis schematic diagram



Chassis schematic diagram

IC119 8087-2 NDP (OPTION)

IC120 8086-2 CPU

IC125 AMS BUS GATE ARRAY 40039

IC127 AMS ROM 40045

IC131 256K D-RAM

IC133 256K D-RAM

AMS VDU GATEARRAY IC126 40041

JD103 VDU DIN (8PIN) SOCKET CONN

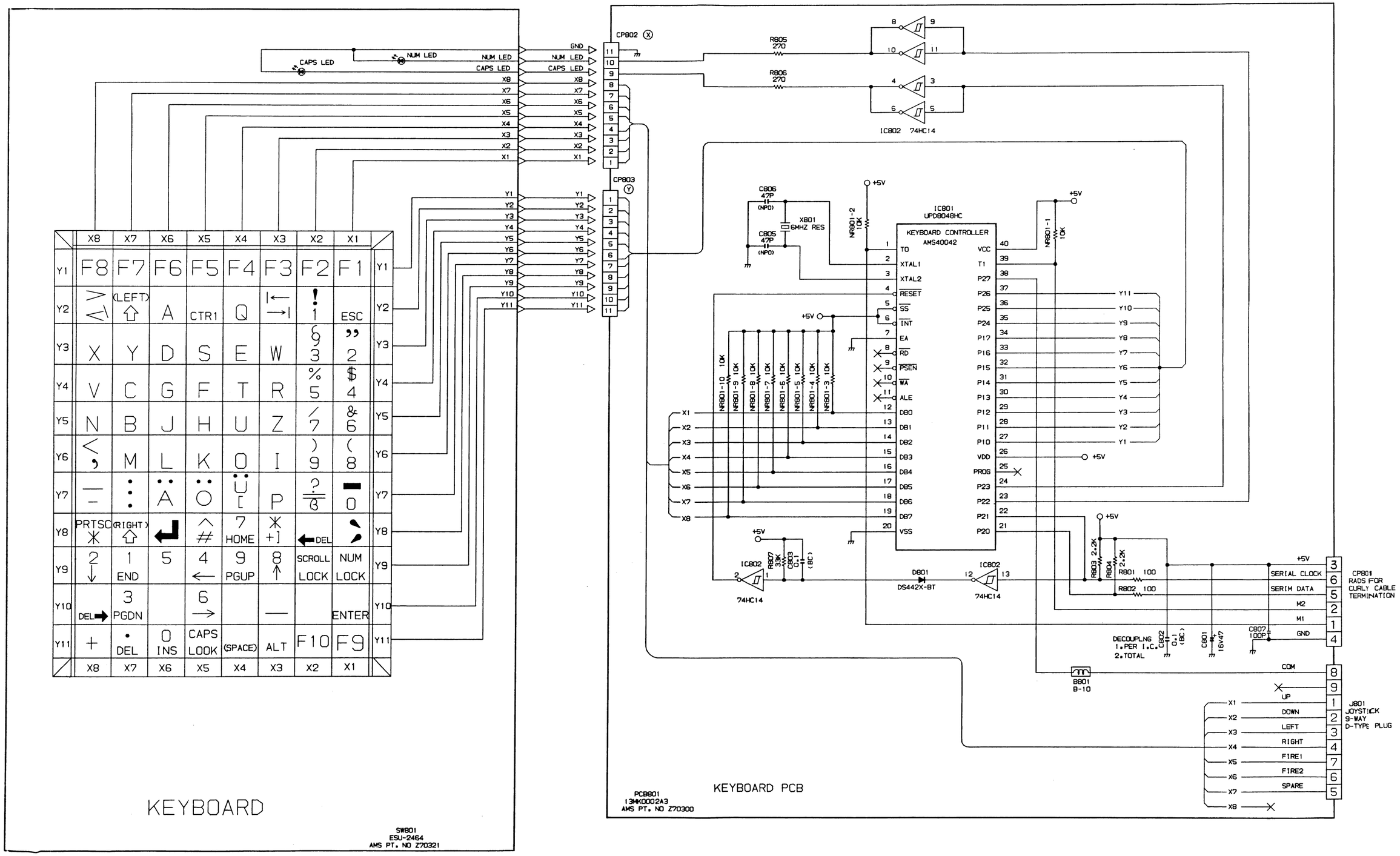
CP101

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

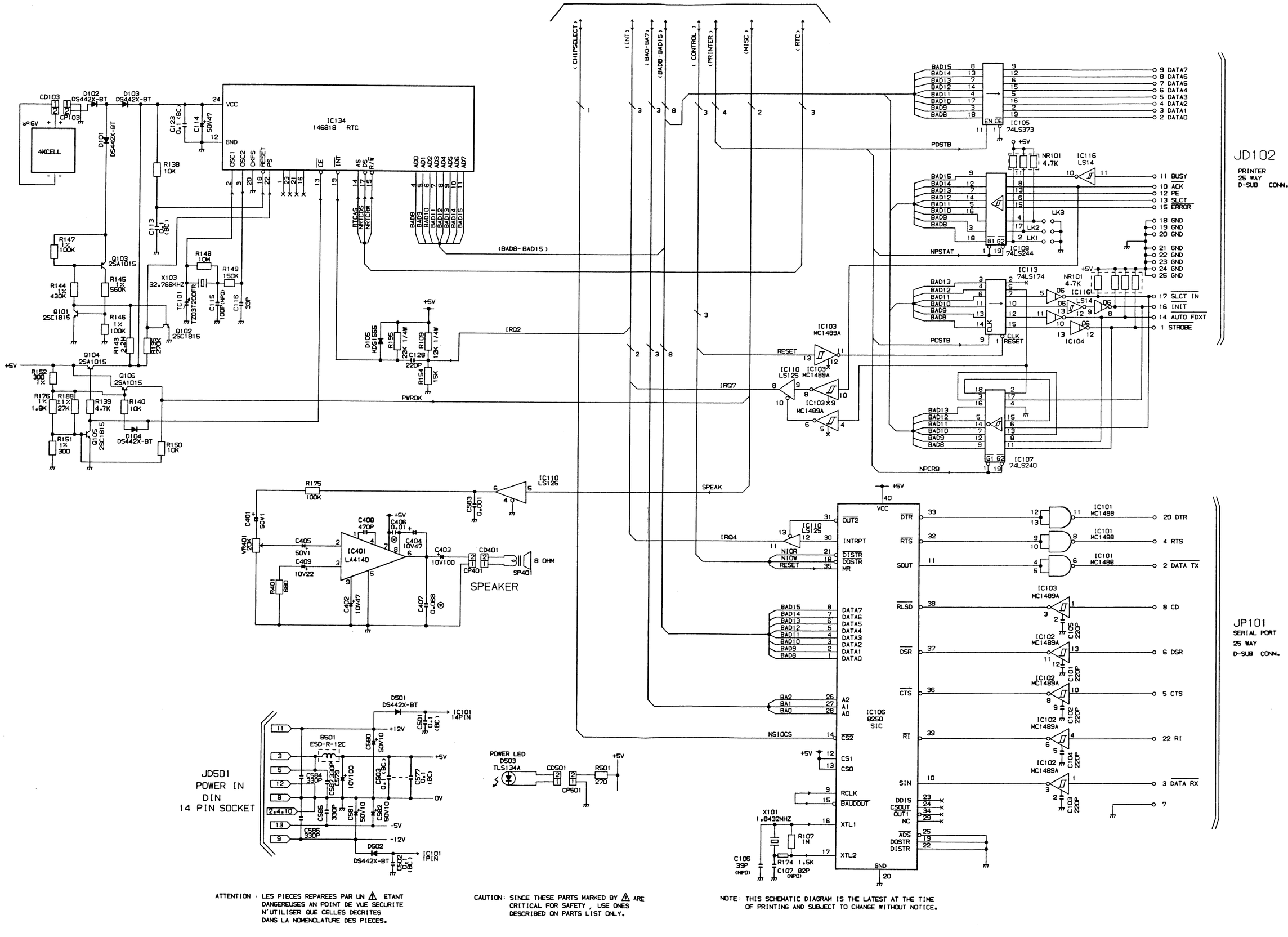
ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

Chassis schematic diagram



Chassis schematic diagram

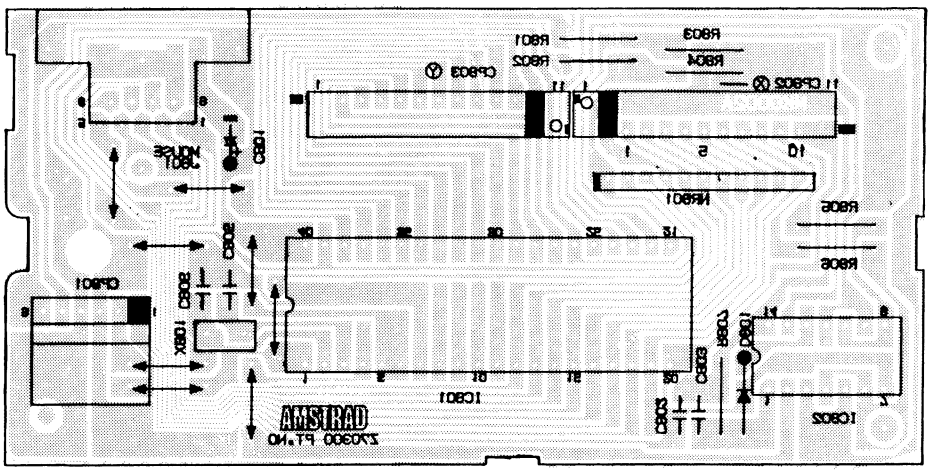


ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY , USE ONES DESCRIBED ON PARTS LIST ONLY.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

Keyboard P.C.B.

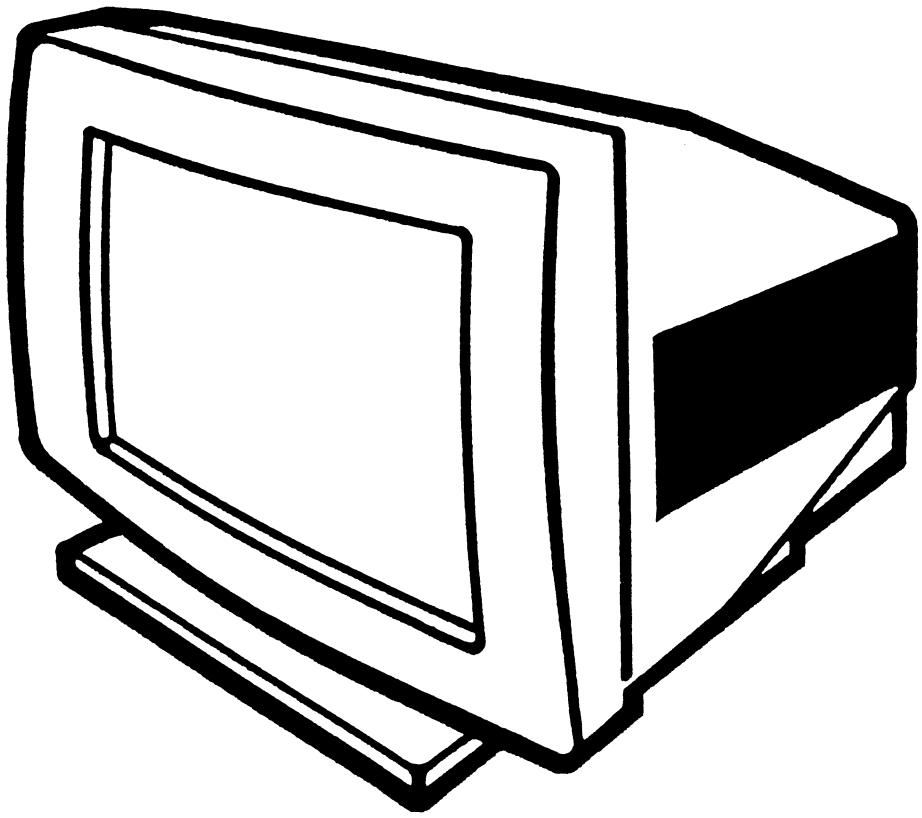


SYMBOL LIST

RESISTOR	
SEMI-FIXED RESISTOR	
CAPACITOR	
JUMPER	

MONOCHROME MONITOR

MODEL PC-MM



Major components location guide

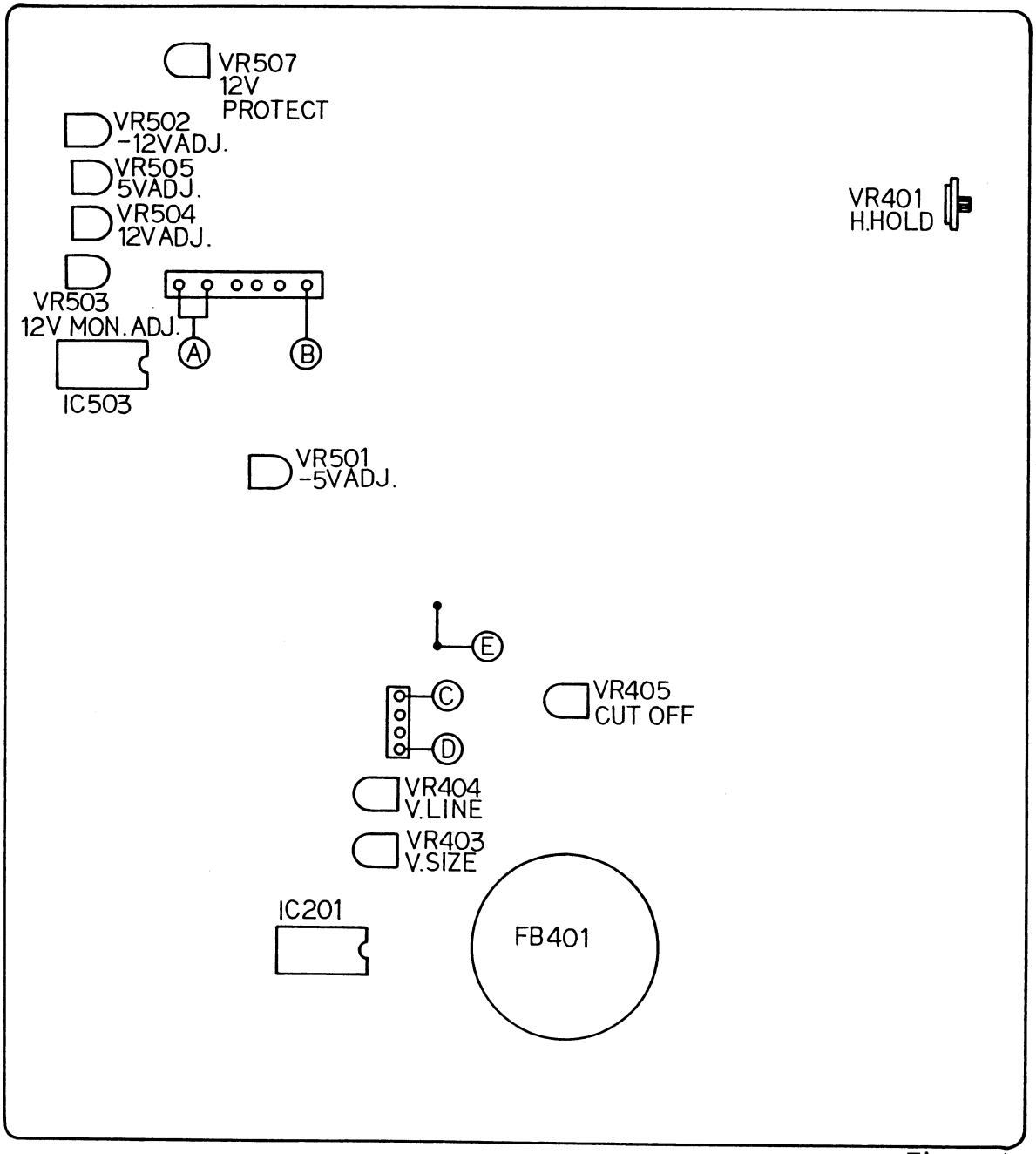


Figure A

Abgleichanweisung
ALIGNMENT INSTRUCTIONS

Bildhöhen-Einstellung
1. Laden Sie die VDU-Testsoftware (F3) und starten Sie das Testbild „Circle alignment test".
2. Mit Regler VR403 den oberen und unteren Bildrand auf 12 mm ±3 mm einstellen.

Linearitäts-Einstellung
1. Laden Sie die VDU-Testsoftware (F3) und starten Sie das Testbild „Circle alignment test".
2. Mit Regler VR404 das Testbild so einstellen, daß die Kreise rund dargestellt werden.

Schirmgitterspannung-Einstellung
1. Laden Sie die VDU-Testsoftware (F3) und schalten Sie das Bildsignal aus (Turn video off).
2. Helligkeitsregler VR201-2 und Kontrastregler VR201-1 auf maximum.
3. Mit Regler VR405 das Bild so einstellen, daß ein sattes Schwarzbild erscheint.

Horizontalfrequenz-Einstellung
1. Steuern Sie den Monitor mit keinem Signal an! (RGB-Verbindung zur Systemeinheit lösen).
2. Frequenzzähler an IC401 Pin 9 anschließen.
3. Mit Regler VR401 die Frequenz auf 15700 Hz einstellen.

V. SIZE ADJUSTMENT
1. Insert the VDU TEST floppy disk into PC-1512 and make the Circle Pattern appear on the screen.
2. Adjust the VR403 so that the Border Size become as shown below. (Refer to Fig. 1)
   A.C ... 12 mm ±3 mm

V. LINE ADJUSTMENT
1. Insert the VDU TEST floppy Disk into PC-1512 and make the Circle Pattern appear on the screen.
2. Adjust the VR404 so that E – F are equal and make 4 circle's on the corners be perfect circle. (Refer to Fig. 1)

CUT OFF ADJUSTMENT
1. Insert the VDU TEST floppy disk into PC-1512 and make the Turn Video Pattern (Black 100%) appear on the screen.
2. Set the Bright (VR201-2) and the Contrast (VR201-1) to maximum position.
3. Adjust the VR405 so that black on the screen will not be bright.

SUB H-HOLD AND H-HOLD ADJUSTMENT
1. Shut off the input signal and set the screen to the free-run condition.
2. Connect frequency counter to CRT heater.
3. Adjust VR401 to obtain 15,700 Hz reading.

Abgleichanweisung
ALIGNMENT INSTRUCTIONS

5 V DC Einstellung
1. Digitalvoltmeter an Meßpunkt A anschließen.
2. Mit VR505 auf 5.1 V DC ±0.02 V einstellen.

12 V DC Einstellung
1. Digitalvoltmeter an Meßpunkt B anschließen.
2. Mit VR504 auf 12.15 V DC ±0.02 V einstellen.

−5 V DC Einstellung
1. Digitalvoltmeter an Meßpunkt C anschließen.
2. Mit VR501 auf −5 V DC ±0.05 V einstellen.

−12 V DC Einstellung
1. Digitalvoltmeter an Meßpunkt D anschließen.
2. Mit VR502 auf −12 V DC ±0.05 V einstellen.

12 V DC Einstellung (Monitor)
. Digitalvoltmeter an Meßpunkt E anschließen.
2. Mit Regler VR503 auf 12 V DC ±0.05 V einstellen.

12 V DC Schutzschaltung
1. Schließen Sie in Reihe zur +12 V DC-Leitung ein Amperemeter, sowie einen Lastwiderstand mit ca. 35 Watt gegen Masse.
   Dieser Widerstand muß so gewählt sein, daß der Strom ca. 4.5 A−4.6 A beträgt.
2. Mit Regler VR507 die Schutzschaltung so einstellen, daß sie bei dieser Belastung noch nicht anspricht.

Bildlage-Einstellung
1. Laden Sie die VDU-Testsoftware (F3) und starten Sie das Testbild „Circle alignment test".
2. Drehen Sie die Ablenkspule bis das Testbild waagerecht ist. Befestigen Sie die Ablenkspule.
3. Mit den Magnetringen am Bildröhrenhals die Bildlage und Mitteneinstellung vornehmen. (siehe Abb. 1; B, D = 12 mm +3 mm)

DC 5 V ADJUSTMENT
1. Connect the hot of the Digital voltmeter to A, and the cold to ground. (Refer to Fig. A)
2. Adjust the VR505 so that it indicates DC 5.10 V ±0.02 V.

DC 12 V ADJUSTMENT
1. Connect the hot of the Digital voltmeter to B, and the cold to ground. (Refer to Fig. A)
2. Adjust the VR504 so that it indicates DC 12.15 V ±0.02 V.

DC −5 V ADJUSTMENT
1. Connect the hot of the Digital voltmeter to C, and the cold to ground. (Refer to Fig. A)
2. Adjust the VR501 so that it indicates DC −5.00 V ±0.05 V.

DC −12 V ADJUSTMENT
1. Connect the hot of the Digital voltmeter to D, and the cold to ground. (Refer to Fig. A)
2. Adjust the VR502 so that it indicates DC −12.00 V ±0.05 V.

DC 12 V MONITOR ADJUSTMENT
1. Connect the hot of the Digital voltmeter to E, and the cold to ground. (Refer to Fig. A)
2. Adjust the VR503 so that it indicates DC 12.00 V ±0.05 V.

DC 12 V PROTECT ADJUSTMENT
1. Connect the amperemeter to 12 V LINE in series.
2. Adjust the VR507 so that it indicates 4.5 A.

CENTERING ADJUSTMENT
1. Insert the VDU TEST floppy disk into PC-1512 and make the Circle Pattern appear on the screen.
2. Turn the DY coil to set the Circle Patern to horizontal position and fix it.
3. Adjust the centering magnet so that the Border Size become as shown below ... (Refer to Fig. 1)
   B.D ... 12 mm ±3 mm
4. Adjust 4 pole magnet so that distortion on the screen will disappear and fix it.

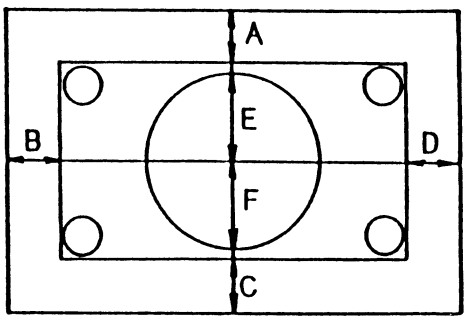
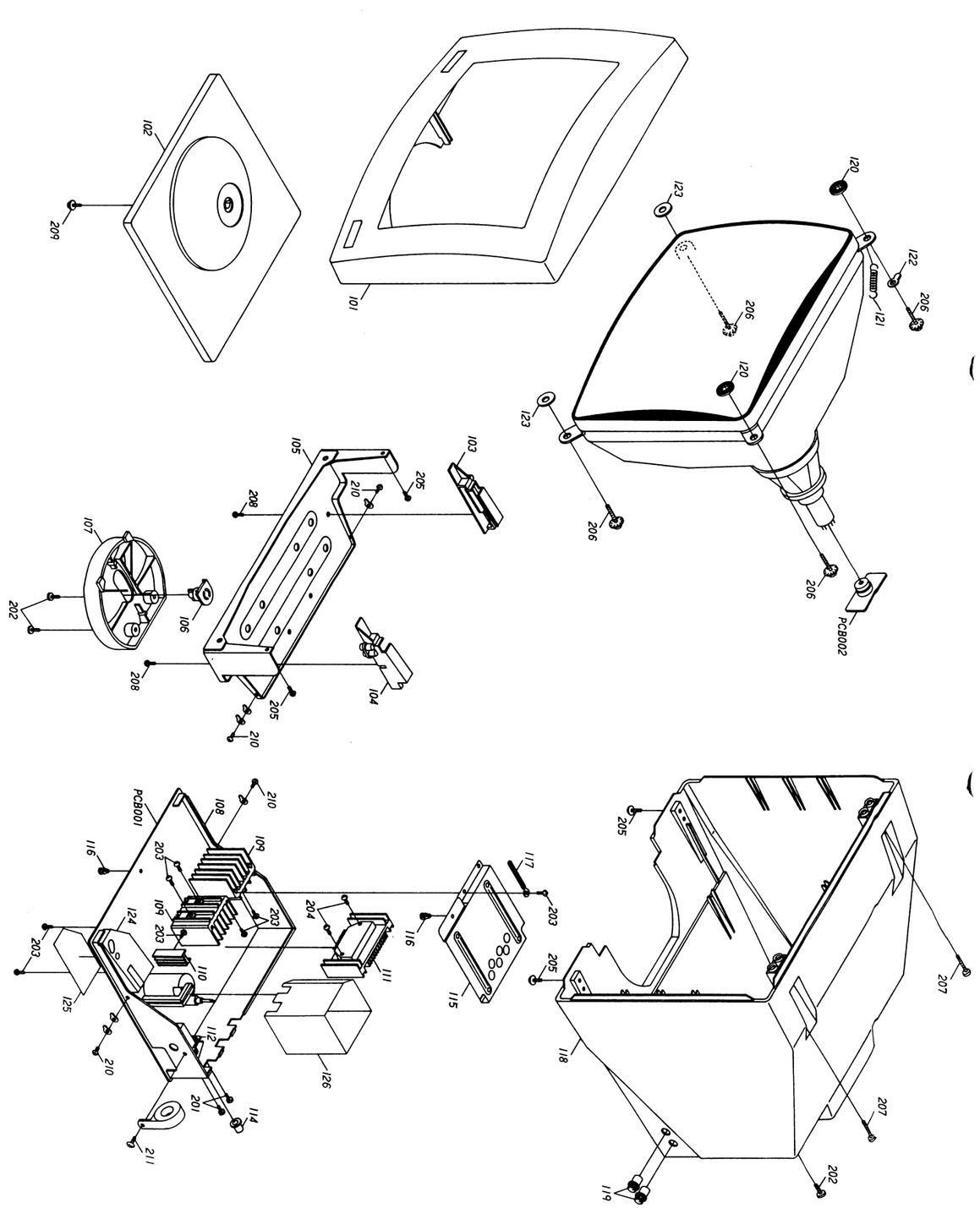


Figure 1

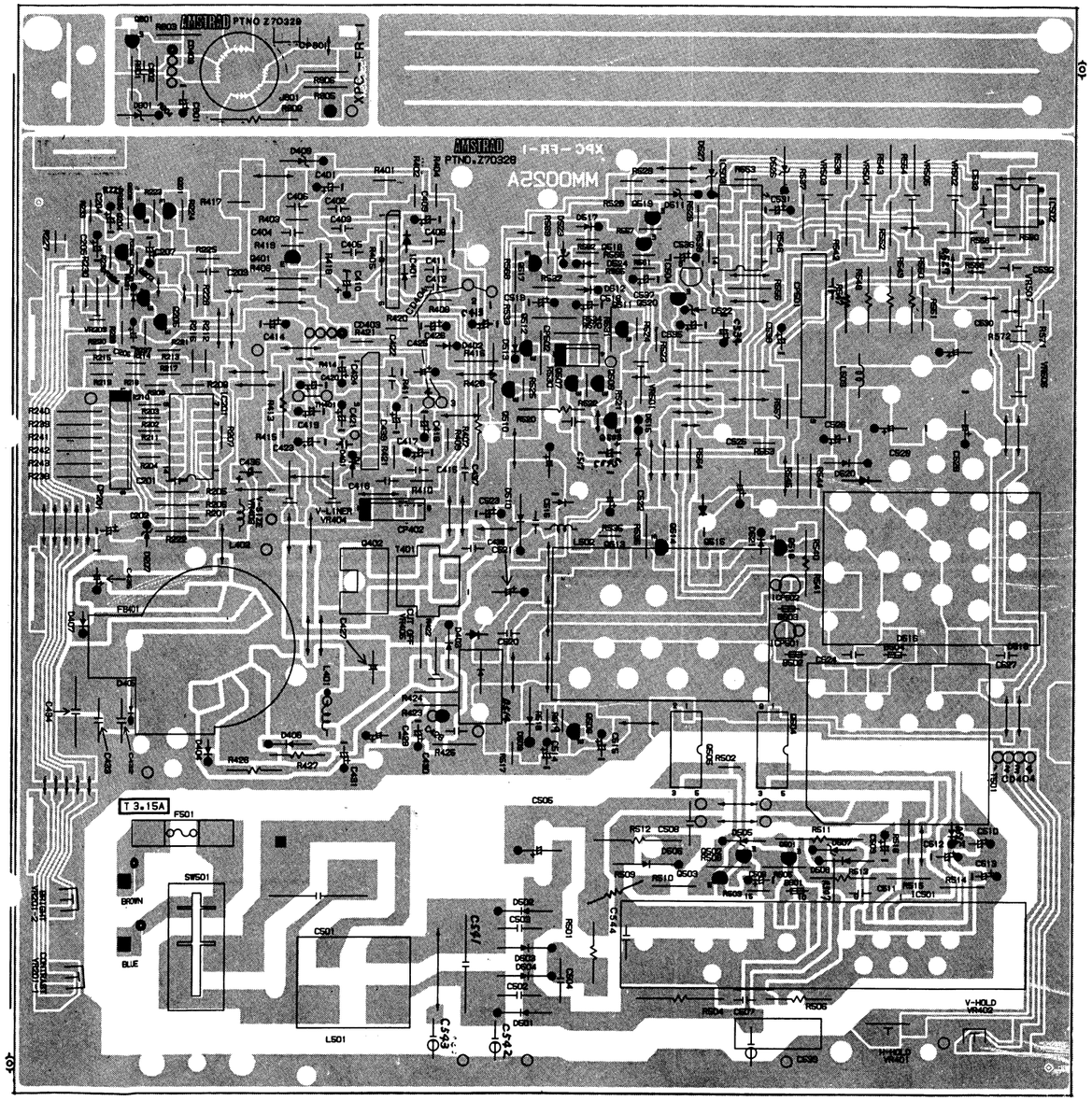
Ersatzteilliste für PC MM
Parts List for Model PC MM

Best.-Nr. Part-No.	Bezeichnung	Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
3490100-431	Frontrahmen kpl.	CABINET, FRONT ASS'Y	A21403723	101
3490200-431	Frontrahmen	CABINET, FRONT	701KPA0070	
3490300-436	Schild Modell	PLATE, FRONT (R)	7230001437	
3490400-436	Schild Name	PLATE, FRONT (L)	7232530030	
3490500-431	Gehäusefuß	STAND, BOTTOM	704KPA0012	102
3490600-4294	Platinenhalter L	HOLDER, PCB (L)	762KPA0002	103
3490700-4294	Platinenhalter R	HOLDER, PCB (R)	762KPA0001	104
3490900-4294	Halter Gehäusefuß	HOLDER, STAND	704KPA0016	106
3491000-431	Oberteil Gehäusefuß	STAND, TOP	704KPA0015	107
		SPACER, STAND	784JPA0010	
3491100-4282	Knopf Taste	BUTTON, PUSH	736KPA0001	114
3491200-4196	Abschirmblech	PLATE, SHIELD	752KSA0071	115
3491300-431	Gehäuse Rückwand	CABINET, BACK	702KPA0112	117
3491400-4361	Gehäuse Typenschild	SHEET, RATING	7220000312	118
3491500-436	Schild Netzschalter	SHEET, POWER SWITCH	7230001438	
3491600-436	Schild Vert./Hor. Frequenz	SHEET, V.H.HOLD	7230001440	
3491700-436	Schild Hell./Kontr.	SHEET, CONTROL	7230001441	
3491800-4281	Knopf Dreh	KNOB, VOLUME	732KPA0022	119
3491900-4064	Scheibe	SHEET, CRT SUPPORT	800KR00007	120
3492000-4162	Feder	SPRING, EARTH	741KUA0012	121
3492100-4064	Scheibe	WASHER, CRT	761KSA0113	123
		BIND M 3× 6 CH	8102230604	201
		BIND M 4× 8 CH	8102240804	202
		TAP TITE (P) 3×10 CH	8110630A04	203
		TAP TITE (P) 3×14 CH	8110130A44	204
		TAP TITE (P) BIND 4×16 CH	8110240A64	205
		TAP TITE (P) PAN GW14 4×30 CH	8141140C04	206
		TAP TITE (P) 4×40 CH	8110140D04	207
		TAPPING (B0) TRUSS 4×10 CH	8117540A04	208
		TAPPING (B0) WH12 4×20 CH	8117F40B04	209
		TAP TITE (S) 3× 6 CH	8107630604	210
		TAP TITE (S) TRUSS 4×10 CH	8107540A04	211
3492200-214	Folienbeutel	POLY, BAG	791KHA0050	–
3492300-213	Styropor oben	PACKAGE, TOP	792KHA0081	–
3492400-213	Styropor unten	PACKAGE, BOTTOM	792KHA0082	–
3490800-212	Faltkarton	GIFT BOX	793KCD0237	–

Mechanical exploded view



Main P.C.B.



SYMBOL LIST

RESISTOR	
SEMI-FIXED RESISTOR	
CAPACITOR	
JUMPER	

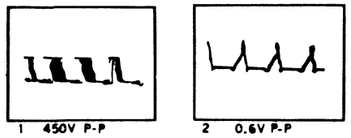
Ersatzteilliste für Monitor MM
Parts List for Model Monitor MM

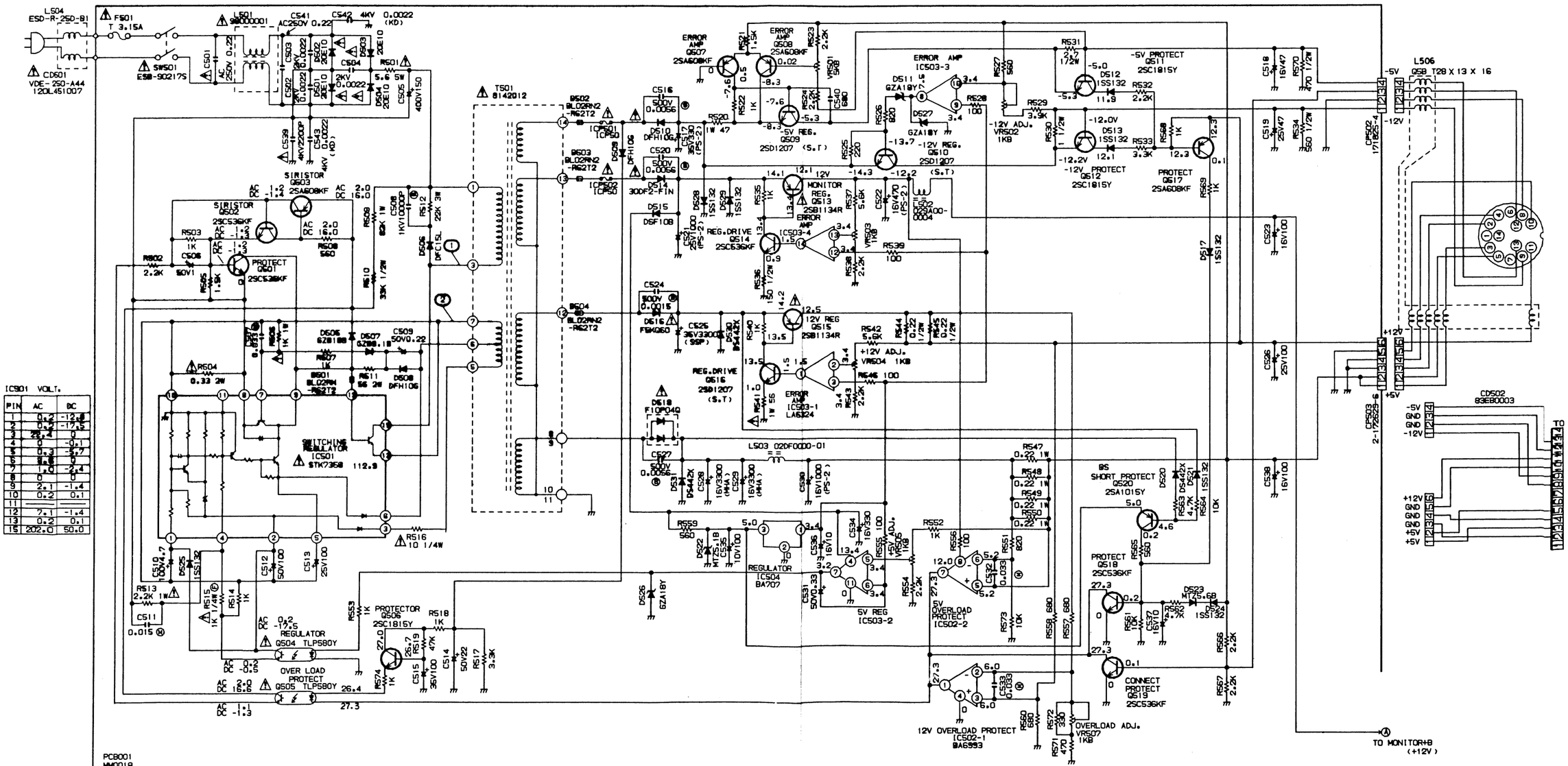
Best.-Nr. Part-No.	Bezeichnung	Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
IC				
3201700-302	IC	TC74HC04	IC	155D4HC040	IC201
3201000-302	IC	AN5753	IC	101SD57530	⚠ IC401
2654800-302	IC	UPC1031H2	IC	102S010310	⚠ IC402
3492500-302	IC	STK7358	IC	103S073580	⚠ IC501
3492600-302	IC	BA6993	IC	107D069930	IC502
2438900-302	IC	LA6324	IC	103D063240	IC503
3492700-302	IC	BA707	IC	1079907070	IC504
Transistoren / Transistors				
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q201
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q202
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q203
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q204
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q205
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q401
2655100-301	Transistor	2SD1159	TRANSISTOR, SILICON	TD30011590	⚠ Q402
1354500-301	Transistor	2SC536KNPFT	TRANSISTOR, SILICON	TC3T0536KF	Q501
1354500-301	Transistor	2SC536KNPFT	TRANSISTOR, SILICON	TC3T0536KF	Q502
2131200-301	Transistor	2SA608KNPFT	TRANSISTOR, SILICON	TA3T0608KF	Q503
3492800-3011	Optokoppler	TLP580	PHOTO COUPLER	0002500030	Q504
3492800-3011	Optokoppler	TLP580	PHOTO COUPLER	0002500030	Q505
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q506
2131200-301	Transistor	2SA608KNPFT	TRANSISTOR, SILICON	TA3T0608KF	Q507
2131200-301	Transistor	2SA608KNPFT	TRANSISTOR, SILICON	TA3T0608KF	Q508
2661600-301	Transistor	2SD1207-T	TRANSISTOR, SILICON	TD3T012070	Q509
2661600-301	Transistor	2SD1207-T	TRANSISTOR, SILICON	TD3T012070	Q510
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q511
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q512
3492900-301	Transistor	2SB1134R	TRANSISTOR, SILICON	TB3001134R	⚠ Q513
1354500-301	Transistor	2SC536KNPFT	TRANSISTOR, SILICON	TC3T0536KF	Q514
3492900-301	Transistor	2SB1134R	TRANSISTOR, SILICON	TB3001134R	⚠ Q515
2661600-301	Transistor	2SD1207-T	TRANSISTOR, SILICON	TD3T012070	Q516
2131200-301	Transistor	2SA608KNPFT	TRANSISTOR, SILICON	TA3T0608KF	Q517
1354500-301	Transistor	2SC536KNPFT	TRANSISTOR, SILICON	TC3T0536KF	Q518
1354500-301	Transistor	2SC536KNPFT	TRANSISTOR, SILICON	TC3T0536KF	Q519
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q520
2654900-301	Transistor	2SC2229 Y-Type 6	TRANSISTOR, SILICON	TC5T022294	Q801
Dioden / Diodes				
0687200-3044	Z-Diode	MTZ5.1BT-77	DIODE, ZENER	D97U05R10B	D207
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D208
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D401
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D402
3493100-3041	Diode	11E2TA1	DIODE, SILICON	D28T011E20	D403
3493200-304	Diode	10ELS4-TA-1	DIODE, RECTIFIER	D28T0ELS40	D404
3493200-304	Diode	10ELS4-TA-1	DIODE, RECTIFIER	D28T0ELS40	D405
3493300-3041	Diode	11E1TA1-T	DIODE, SILICON	D28T011E10	D406
3493200-304	Diode	10ELS4-TA-1	DIODE, RECTIFIER	D28T0ELS40	D407
2135000-3044	Z-Diode	GZA6.2 Y BT	DIODE, ZENER	D93T06R20Y	D408
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D409
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D410
3201900-3041	Diode	20E10FA13	DIODE, SILICON	D28H20E100	⚠ D501
3201900-3041	Diode	20E10FA13	DIODE, SILICON	D28H20E100	⚠ D502
3201900-3041	Diode	20E10FA13	DIODE, SILICON	D28H20E100	⚠ D503
3201900-3041	Diode	20E10FA13	DIODE, SILICON	D28H20E100	⚠ D504
3493400-3044	Z-Diode	GZB18B	DIODE, ZENER	D93011801B	D505
3493500-304	Diode	DFC15L-KC5	DIODE, RECTIFIER	D231DFC15L	D506
3493600-3044	Z-Diode	GZB9.1B	DIODE, ZENER	D93019R11B	D507
3493700-304	Diode	DFH10G-KB4	DIODE, RECITFIER	D23FDFH10G	D508
3493700-304	Diode	DFH10G-KB4	DIODE, RECTIFIER	D23FDFH10G	D509
3493700-304	Diode	DFH10G-KB4	DIODE, RECTIFIER	D23FDFH10G	⚠ D510
3493800-3044	Z-Diode	GZA18 Y BT	DIODE, ZENER	D93T01800Y	D511
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D512
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D513
3202100-3041	Diode	30DF2-FIN	DIODE, SILICON	D28L30DF20	⚠ D514
3493900-304	Diode	DSF-10B-BT	DIODE, RECTIFIER	D23TDSF10B	D515
3494000-304	Diode	F5KQ60	DIODE, SCHOTTKY BARRIE	D28A5KQ600	⚠ D516
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D517
3494100-304	Diode	F10PO4Q	DIODE, SCHOTTKY BARRIE	D28A0P04Q0	⚠ D518
2655500-3041	Diode	DS442X-BT	DIODE, SILICON	D13TDS442X	D520

Best.-Nr. Part-No.	Bezeichnung		Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
3493000-3041	Doide	1SS132T-77	DIODE, SILICON	D17T001320	D521
0687200-3044	Z-Doide	MTZ5.1BT-77	DIODE, ZENER	D97U05R10B	D522
3494200-3044	Z-Doide	MTZ5.6BT-77	DIODE, ZENER	D97U05R60B	D523
3493000-3041	Doide	1SS132T-77	DIODE, SILICON	D17T001320	D524
3493000-3041	Doide	1SS132T-77	DIODE, SILICON	D17T001320	D525
3493800-3044	Z-Doide	GZA18 Y BT	DIODE, ZENER	D93T01800Y	D526
3493800-3044	Z-Doide	GZA18 Y BT	DIODE, ZENER	D93T01800Y	D527
3493000-3041	Doide	1SS132T-77	DIODE, SILICON	D17T001320	D528
3493000-3041	Doide	1SS132T-77	DIODE, SILICON	D17T001320	D529
2655500-3041	Doide	DS442X-BT	DIODE, SILICON	D13TDS442X	D530
2655500-3041	Doide	DS442X-BT	DIODE, SILICON	D13TDS442X	D531
2655600-3044	Z-Doide	RD56FB	DIODE, ZENER	D92015600B	D801
Widerstände / Resistors					
3494300-3212	Schiwi	75 ½ W	RC	R01222750J	R238
3494300-3212	Schiwi	75 ½ W	RC	R01222750J	R239
3494300-3212	Schiwi	75 ½ W	RC	R01222750J	R240
3494300-3212	Schiwi	75 ½ W	RC	R01222750J	R241
3494300-3212	Schiwi	75 ½ W	RC	R01222750J	R242
3494300-3212	Schiwi	75 ½ W	RC	R01222750J	R243
1486100-3217	Sich.-Widerstand	39 ¼ W	R, FUSE	R61584390J	⚠ R406
3494400-321	Metallschiwi	100 1 W	R, METAL OXIDE	R31181101J	⚠ R407
3206500-321	Metallschiwi	1 1 W	R, METAL OXIDE	R31181010J	⚠ R415
3207200-3217	Sich.-Widerstand	22 ½ W	R, FUSE	R61582220J	⚠ R426
3253000-3217	Sich.-Widerstand	1 ½ W	R, FUSE	R63582010J	⚠ R427
3494500-321	Metallschiwi	470 1 W	R, METAL OXIDE	R31181471J	R428
3494600-3219	Widerstand	5.6 5 W	R, CEMENT	R512AD5R6J	⚠ R501
3206900-321	Metallschiwi	0.33 2 W	R, METAL OXIDE	R3118AR33J	⚠ R504
2659900-321	Metallschiwi	1 K 1 W	R, METAL OXIDE	R31181102J	⚠ R506
3494700-321	Metallschiwi	82 K 1 W	R, METAL OXIDE	R30301823J	R509
3494800-321	Metallschiwi	56 2 W	R, METAL OXIDE	R3118A560J	R511
3494900-321	Metallschiwi	22 K 3 W	R, METAL OXIDE	R3128B223J	R512
3495000-321	Metallschiwi	2.2 K 1 W	R, METAL OXIDE	R3D301222J	⚠ R513
1862600-3217	Sich.-Widerstand	1 K ¼ W	R, FUSE	R63584102J	⚠ R515
3228600-3217	Sich.-Widerstand	10 ¼ W	R, FUSE	R61584100J	⚠ R516
3495100-321	Metallschiwi	47 1 W	R, METAL OXIDE	R31181470J	R520
3495200-321	Metallschiwi	56 1 W	R, METAL OXIDE	R31181560J	⚠ R541
3495300-321	Metallschiwi	0.22 ½ W	R, METAL OXIDE	R31202R22J	R544
3495300-321	Metallschiwi	0.22 ½ W	R, METAL OXIDE	R31202R22J	R545
3495400-321	Metallschiwi	0.22 1 W	R, METAL OXIDE	R31181R22J	R547
3495400-321	Metallschiwi	0.22 1 W	R, METAL OXIDE	R31181R22J	R548
3495400-321	Metallschiwi	0.22 1 W	R, METAL OXIDE	R31181R22J	R549
3495400-321	Metallschiwi	0.22 1 W	R, METAL OXIDE	R31181R22J	R550
3207100-321	Metallschiwi	4.7 K 2 W	R, METAL OXIDE	R3D30A472J	⚠ R802
Kondensatoren / Capacitors					
3248800-3O7	Elko	1000 µF 10 V	CE	E02101102M	C425
1133000-3O7	Elko	10 µF 25 V	CE	E0B903100M	C427
3207800-311	Foko	0.1 µF 250 V	CMP	P211G3104K	C428
3495500-3O7	Elko	2.2 µF 160 V	CE	E011FB2R2M	C429
3495600-311	Foko	0.0056 µF 630 V	CPP	P34105562J	C432
3495700-311	Foko	0.0047 µF 630 V	CPP	P34105472J	C433
3495800-311	Foko	0.027 µF 400 V	CPP	P34104273J	C434
1144000-3O7	Elko	220 µF 35 V	CE	E0B104221M	C435
3495900-311	Foko	0.22 µF AC 250 V	CMPL	P614FB224M	C501
2664600-314	Kerko	0.0022 µF 2 KV B	CC	C02BB07H3K	C502
2664600-314	Kerko	0.0022 µF 2 KV B	CC	C02BB07H3K	C503
2664600-314	Kerko	0.0022 µF 2 KV B	CC	C02BB07H3K	C504
3496000-3O7	Elko	150 µF 400 V	CE	E03L0H151M	C505
3496100-314	Kerko	0.01 µF 1 KV B	CC	C02BB0614K	C508
3496200-314	Kerko	0.0056 µF 500 V B	CC	C020B05S3K	C516
0590000-3O7	Elko	330 µF 35 V	CE	E02QG4331M	C517
3496200-314	Kerko	0.0056 µF 500 V B	CC	C020B05S3K	C520
1133400-3O7	Elko	1000 µF 25 V	CE	E02QG3102M	C521
0354300-3O7	Elko	470 µF 16 V	CE	E02QG2471M	C522
3481600-314	Kerko	0.0015 µF 500 V B	CC	C02BB05E3K	C524
0587600-3O7	Elko	3300 µF 35 V	CE	E02SG4332M	C525
3496200-314	Kerko	0.0056 µF 500 V B	CC	C020B05S3K	C527
3496300-3O7	Elko	3300 µF 16 V	CE	E02HG2332M	C528
3496300-3O7	Elko	3300 µF 16 V	CE	E02HG2332M	C529
0323500-3O7	Elko	1000 µF 16 V	CE	E02QG2102M	C530
2664900-314	Kerko	2200 pF 4 KV	CC	C010D09H3M	⚠ C539
3496400-314	Kerko	680 pF 50 V SL	CC	C0B0SL4U2K	C540

Best.-Nr. Part-No.	Bezeichnung		Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
3495900-311	Foko	0.22 µF AC 250 V	CMPL	P614FB224M	C541
2664900-314	Kerko	0.0022 µF 4 KV	CC	CA30E09H3K	C542
2664900-314	Kerko	0.0022 µF 4 KV	CC	CA30E09H3K	C543
3496500-314	Kerko	390 pF 2 KV B	CC	C010B07N2K	C544
Spulen und Transformatoren / Coils and Transformers					
3202500-3253	Spule	21000006	COIL, LINEARITY	0221000006	L401
3202400-3251	Spule	100µH 1451MM	COIL, INDUCTOR	021H66100K	L402
3496600-3252	Spule	RB-20871	COIL, LINE FILTER	0298000001	⚠ L501
3496700-3253	Spule	02DX000001	COIL	02DX000001	L502
3496800-3253	Spule	SN5-2002	COIL	02DF000001	L503
3202600-3243	Trafo Hor.	RB-20852	TRANS, HORIZONTAL DRIVE	045017001E	T401
3496900-3244	Trafo Schaltnetzteil	8142012	TRANSFORMER, SWITCHING	048142012G	T501
3497000-3253	Ablenkspule		DY	0271011403	DY401
Verschiedenes / Miscellaneous					
3497100-3231	Poti 10 K		VR, ROTARY	V029200002	VR201
3497200-3231	Poti 30 K		VR, ROTARY	V028034B01	VR402
3497300-502	Platine Monitor		PCB	13MM0025AB	PCB001
3497400-502	Platine Bildröhre		PCB	13MS0065AB	PCB002
3497500-3272	Netzschalter		SWITCH, PUSH	0530105005	⚠ SW501
3497600-3328	Sockel Bildröhre		SOCKET, CATHORD RAY TUBE	066F010001	⚠ J801
3497700-360	Bildröhre		TUBE CATHODE RAY	090G140408	⚠ V801
0606400-3301	Sicherung 3.15 AT		FUSE 3.15 AT	0809T3R101	⚠ F501
3202800-3244	Trafo Zeilen		TRANSFORMER FLYBACK	0420140011	⚠ FB401
3497800-302	Sicherungs IC		IC PROTECTOR N50	0847000202	⚠ ICP501
3497800-302	Sicherungs IC		IC PROTECTOR N50	0847000202	⚠ ICP502
3204400-301	Thermistor		THERMISTOR	DS3A5G102L	TH401
3497900-341	Kabel RGB		CORD DIN	0683EB0004	CD201
3498000-341	Netzkabel		CORD AC	120L451007	⚠ CD501
3498100-341	Kabel DC		CORD DIN	0683EB0003	CD502
3498200-3323	Buchse		CONNECTOR PCB SIDE	0694190019	CP201

Chassis schematic diagram MM



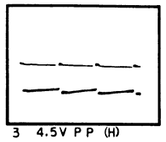


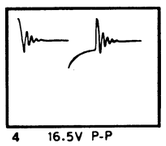
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

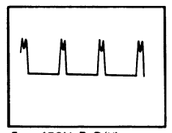
ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.

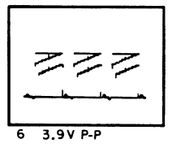
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

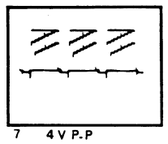
Chassis schematic diagram MM

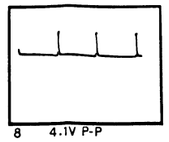

3 4.5V P P (H)

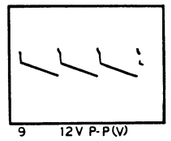

4 16.5V P-P

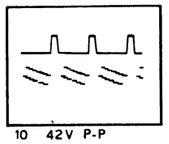

5 150V P-P(H)


6 3.9V P-P


7 4 V P-P


8 4.1V P-P


9 12V P-P(V)


10 42V P-P

IC201 VOLTAGE

1	0	4	0.4	7	0	10	3.3	13	0.8				
2	4.7	5	2.8	8	3.3	11	0.8	14	1.9				
3	3.9	6	0.01	9	0.8	12	3.3						

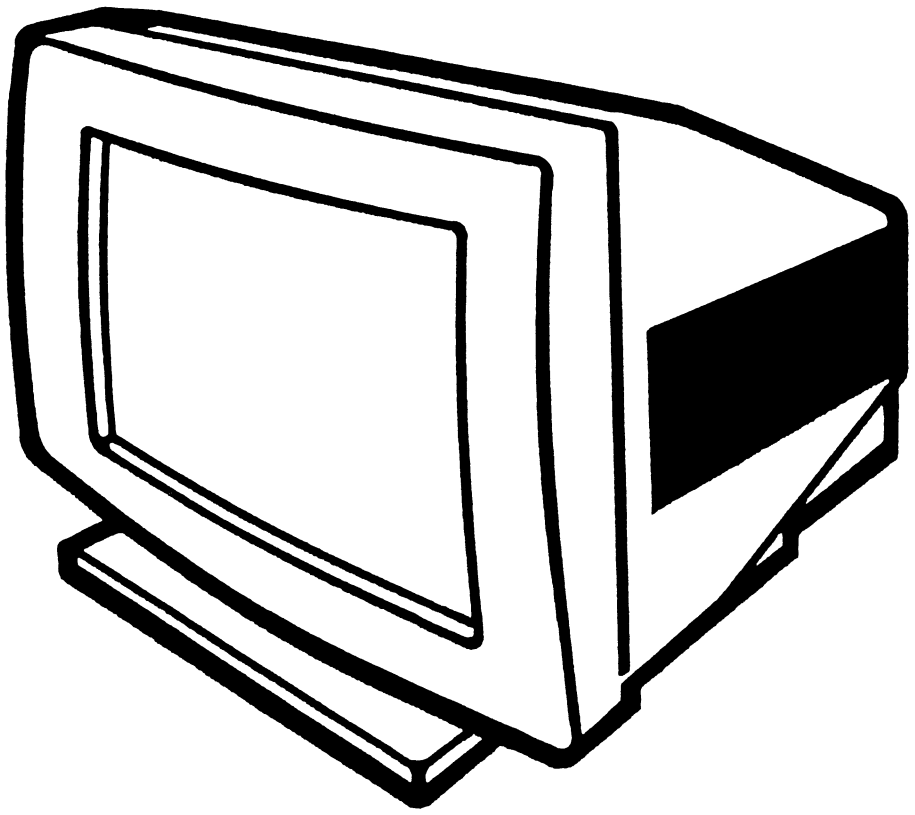
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

COLOUR MONITOR

MODEL PC-CM



Major components location guide

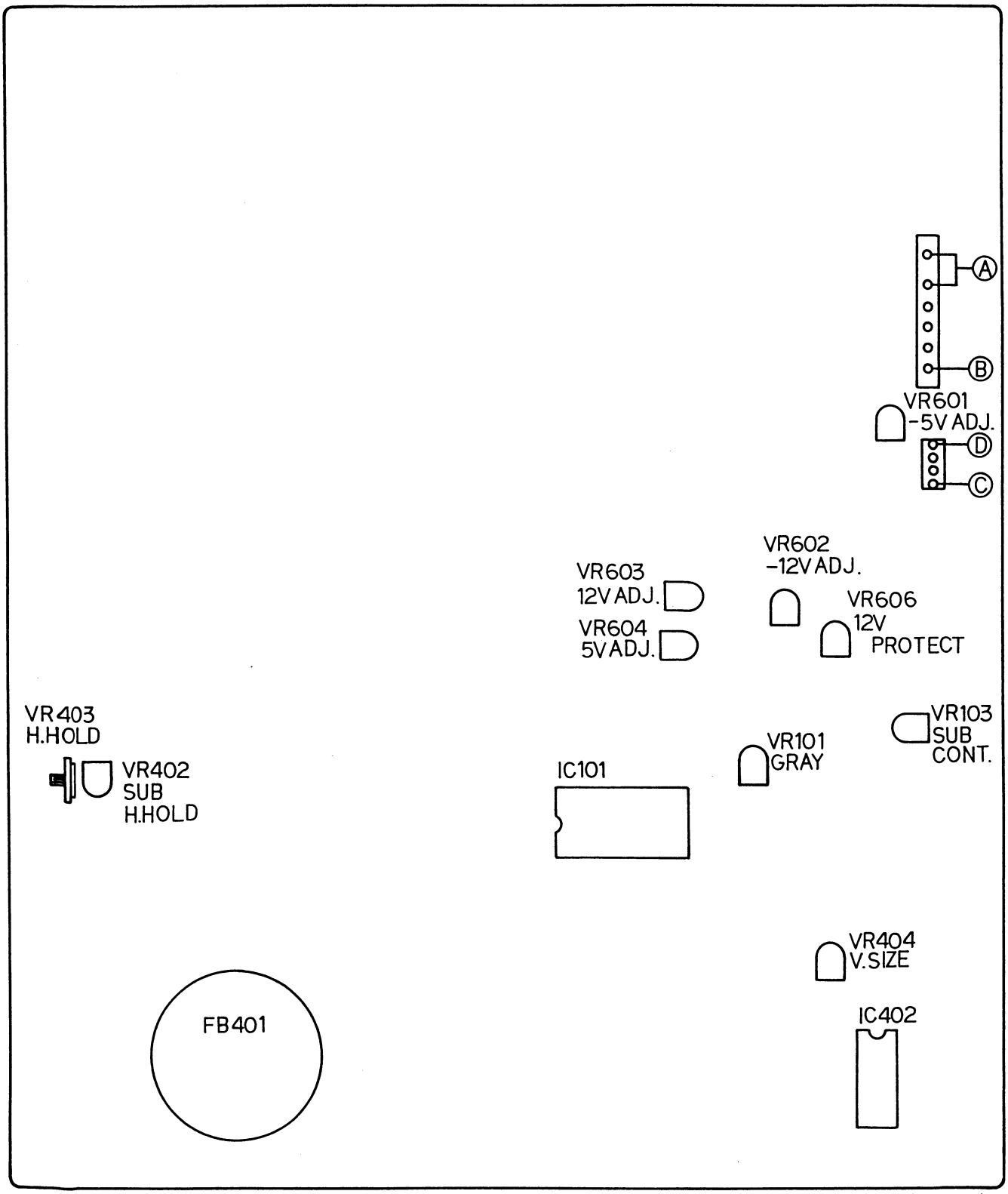


Figure A

Abgleichanweisung
ALIGNMENT INSTRUCTIONS

5 V DC Einstellung
1. Digitalvoltmeter an Meßpunkt A anschließen.
2. Mit VR604 auf 5.1 V DC ±0.02 V einstellen.

12 V DC Einstellung
1. Digitalvoltmeter an Meßpunkt B anschließen.
2. Mit VR603 auf 12.15 V DC ±0.02 V einstellen.

−5 V DC Einstellung
1. Digitalvoltmeter an Meßpunkt C anschließen.
2. Mit VR601 auf −5 V DC ±0.05 V einstellen.

−12 V DC Einstellung
1. Digitalvoltmeter an Meßpunkt D anschließen.
2. Mit VR602 auf −12 V DC ±0.05 V einstellen.

? V DC Schutzschaltung
1. Schließen Sie in Reihe zur +12 V DC-Leitung ein Amperemeter, sowie einen Lastwiderstand mit ca. 35 Watt gegen Masse. Dieser Widerstand muß so gewählt sein, daß der Strom ca. 4,5 A−4,6 A beträgt.
2. Mit Regler VR606 die Schutzschaltung so einstellen, daß sie bei dieser Belastung noch nicht anspricht.

Focus-Einstellung
1. Laden Sie die VDU Testsoftware (F3) und starten Sie die Zeichendarstellung F1.
2. Mit Focusregler am Zeilentrafo auf maximale Bildauflösung einstellen.

Bildhöheneinstellung
1. Laden Sie die VDU-Testsoftware (F3) und starten Sie das Kreis-Testbild (o).
2. Mit Regler VR404 das Testbild wie in Abbildung 1 einstellen.

DC 5 V ADJUSTMENT
1. Connect the hot of the Digital voltmeter to A, and the cold to ground. (Refer to Fig. A)
2. Adjust the VR604 so that it indicates DC 5.10 V ±0.02 V.

DC 12 V ADJUSTMENT
1. Connect the hot of the Digital voltmeter to B, and the cold to ground. (Refer to Fig. A)
2. Adjust the VR603 so that it indicates DC 12.15 V ±0.02 V.

DC −5 V ADJUSTMENT
1. Connect the hot of the Digital voltmeter to C, and the cold to ground. (Refer to Fig. A)
2. Adjust the VR601 so that it indicates DC −5.00 V ±0.05 V.

DC −12 V ADJUSTMENT
1. Connect the hot of the Digital voltmeter to D, and the cold to ground. (Refer to Fig. A)
2. Adjust the VR602 so that it indicates DC −12.00 V ±0.05 V.

DC 12 V PROTECT ADJUSTMENT
1. Connect the amperemeter to 12 V LINE in series.
2. Adjust the VR606 so that it indicates 4.5 A.

FOCUS ADJUSTMENT
1. Insert the VDU TEST floppy disk into PC-1512 and make the Character Pattern appear on the screen.
2. Turn the FOCUS volume counter-clockwise fully and nextly turn it clockwise until just focus position.

V. SIZE ADJUSTMENT
1. Insert the VDU TEST floppy disk into PC-1512 and make the Circle Pattern appear on the screen.
2. Adjust the VR404 so that the Border Size become as shown below. (Refer to Fig. 1)

A.C ... 12 mm ±3 mm
B.C ... 12 mm ±3 mm

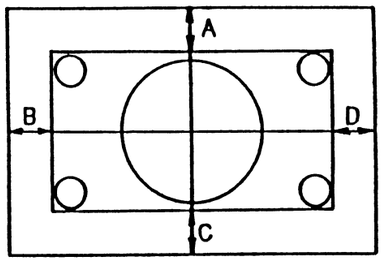


Figure 1

Abgleichanweisung
ALIGNMENT INSTRUCTIONS

Grauabgleich
1. Laden Sie die VDU-Testsoftware (F3) und starten Sie das Farbbalken Testbild (F7).
2. Oszilloskop an Kollektor von Transistor Q802 anschließen.
3. Helligkeitsregler (VR102−2) auf maximum.
4. Mit Regler VR101 den Grauwert auf 27% vom Weißpegel einstellen.

GRAY ADJUSTMENT
1. Insert the VDU TEST floppy disk into PC-1512 and make the Color Bar Pattern appear on the screen.
2. Connect the oscilloscope to the collector of Q802 and make the waveform appear.
3. Set the Bright (VR102−2) to maximum position.
4. Adjust the VR101 so that the gray level of waveform become 27% if the intensity white level of waveform is 100% against black. (Refer to Fig. 2)

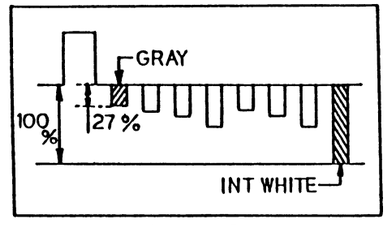


Figure 2

Horizontalfrequenz-Einstellung
1. Steuern Sie den Monitor mit keinem Signal an (Turn Video off).
2. Frequenzzähler an Kollektor von Transistor Q404 anschließen.
3. Regler H-Hold auf Rechtsanschlag.
4. Mit Regler VR402 auf 14,5 KHz einstellen.
5. Mit Regler VR403 auf 15,7 KHz einstellen.

SUB H-HOLD AND H-HOLD ADJUSTMENT
1. Shut off the input signal and set the screen to the free-run condition.
2. Connect frequency counter to CRT heater.
3. Rotate H-Hold control fully counter-clockwise.
4. Adjust VR402 to obtain 14,500 Hz reading.
5. Adjust VR403 to obtain 15,700 Hz reading.

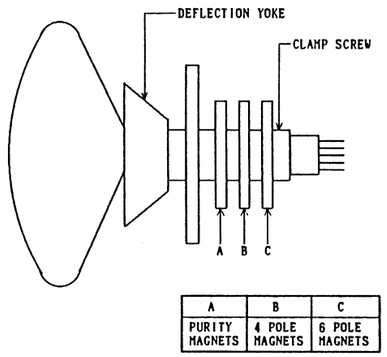
Schwarz-Weiß-Abgleich
Diese Einstellung ist notwendig, um die Bildröhre an die R-G-B-Endstufe anzupassen. Es wird dadurch eine gute Schwarzweißwiedergabe bei jeder Helligkeit erreicht.
Vor der nachfolgenden Einstellung muß das Gerät mind. 10 Minuten in Betrieb sein.
1. Laden Sie die VDU-Testsoftware (F3) und starten Sie das Testbild „weiß" (w).
2. Stellen Sie die Regler VR804 (rot) und VR805 (blau) auf Mittelstellung.
3. Stellen Sie die Regler VR802 (grün), VR801 (rot) und VR803 (blau) auf Linksanschlag.
4. Serviceschalter auf Servicestellung! Mit Helligkeitsregler die Spannung am Kollektor Q805 auf 120 V DC einstellen (Messung mit Oszilloskop).
5. Screen-Regler auf Linksanschlag, dann Screen-Regler so einstellen, daß eine dunkle Linie sichtbar wird.
6. Mit Regler VR802 (grün), VR801 (rot) und VR803 (blau) die dunkle Linie so einstellen, daß sie weiß erscheint.
7. Serviceschalter auf Normalstellung.
8. Mit Regler VR804 (rot) und VR805 (blau) wenn erforderlich die Verstärkung der Blau- und Rot-Endstufe nachstellen, so daß ein weißes Bild entsteht. Wiederholen Sie evtl. die vorigen Schritte.

BLACK AND WHITE TRACKING
The purpose of this procedure is to adjust the biases applied to the picture tube to obtain good black and white picture production at all brightness levels while, at the same time achieving maximum useable brightness. Proper RF AGC control adjustment should have been verified prior to performing this procedure.
1. Insert the VDU TEST floppy disk into PC-1512 and make the White Box Monitor Pattern appear on the screen.
2. Rotate the Red (VR804) and Blue (VR805) Drive controls fully CW and then back CCW to the center of their rotation ranges.
3. Rotate the Green (VR802), Red (VR801) and Blue (VR803) Cut off controls to the fully CCW end of their rotation ranges.
4. Set normal-service switch to service position. Adjust the voltage of test point (collector of green output transistor on CRT PCB) to DC 120 with brightness control. Voltage measurement should be measured with an oscilloscope.
5. Rotate the screen control to the fully CCW end of its rotation range. Then, rotate it CW until a dim line of one pronounced color (green, red or blue) is obtained.
6. The other two color Cot off controls must be rotated CW until a dim white line is obtained.
7. Set normal-service switch to normal position.
8. If required, touch-up adjustment of the Red (VR804) and Blue (VR805) Drive controls to produce a uniform monochrome picture.

Abgleichanweisung
ALIGNMENT INSTRUCTIONS

Farbreinheitseinstellung
Das Gerät muß vor dieser Einstellung mind. 10 Minuten in Betrieb sein.
1. Prüfen Sie die richtige Lage aller Ablenkkomponenten (siehe Abb. 3).
2. Stellen Sie die Konvergenz in der Bildmitte ein, wie es bei der Konvergenz-Abgleichanweisung erklärt ist.
3. Kontrastregler auf Linksanschlag und Helligkeitsregler so einstellen, daß das Bild nicht verzerrt.
4. Laden Sie die VDU-Software (F3) und starten Sie das Grün-Bild (F9 und mehrmals Leertaste betätigen).
5. Befestigungsschrauben der Ablenkeinheit lösen.
6. Beginnen Sie diese Einstellung mit den Purity-Magneten, so daß in der Bildmitte ein gleichmäßiges grünes entsteht.
7. Ablenkeinheit auf dem Bildröhrenhals verschieben, bis das .... auf dem ganzen Bild gleichmäßig grün ist.
   WICHTIG: Die Farbreinheit in der Bildmitte wird durch die Purity-Magnete, die Farbreinheit des gesamten Bildes durch verschieben der Ablenkeinheit eingestellt.
8. Überprüfen Sie die Farbreinheit bei den Farben Rot und Blau, indem Sie das Testbild durch Betätigen der Leertaste auf rot bzw. blau weiterschalten.
   Wiederholen Sie eventuell die vorigen Schritte.
   Ablenkeinheit durch Schraube befestigen.

COLOR PURITY ADJUSTMENT
The receiver must have been operating 10 minutes prior to this procedure and the face plate of the CRT must be at room temperature. The following procedure is ecommended while using a Dot/Bar Generator.
1. Check for correct location of all neck components. (Refer to Fig. 3)
2. Rough-in the static convergence at the center of the CRT, as explained in the static convergence.
3. Rotate the contrast control to maximum CCW position and rotate brightness control as far CW as possible without causing the picture to „bloom".
4. Rotate the Red (VR801) and Blue (VR803) Cut off controls to maximum CCW position. Rotate the Green (VR802) Cut off control sufficiently in a CW direction to produce a green raster.
5. Loosen the deflection yoke clamp screw and pull the deflection yoke toward the rear of the CRT.
6. Begin the following adjustment with the tabs on the round purity magnet rings set together, slowly separate the two tabs while at the same time rotating them to adjust for a uniform green stripe at the center of the CRT screen.
7. Carefully slide the deflection yoke forward to achieve green (uniform green screen).
   NOTE: Center purity is obtained by adjusting the tabs on the round purity magnet rings, outer edge purity is obtained by sliding the deflection yoke forward.
8. Check for red and blue field purity by reducing the output of the Green (VR802) Cut off control and alternately increasing output of Red (VR801) and Blue (VR803) Cut off controls and touch up adjustments, if required.
9. Tighten deflection yoke clamp screw.



A	B	C
PURITY MAGNETS	4 POLE MAGNETS	6 POLE MAGNETS

Figure 3 Picture Tube Neck Component Location

Abgleichanweisung
ALIGNMENT INSTRUCTIONS

Konvergenzeinstellung
Der Empfänger muß vor dieser Einstellung mind. 10 Minuten in Betrieb sein.
1. Laden Sie die VDU-Testsoftware (F3) und starten Sie das Testbild F9.
2. Sicherungsring durch linksdrehen lösen.
3. Mit den Purity Magnets durch gegenseitiges bzw. gleichzeitiges drehen die Bildlage und äußere Konvergenz einstellen.
4. Mit den 4-Pole-Magnets die horizontale und vertikale Konvergenz einstellen.
5. Mit den 6-Pole-Magnets die blau horizontale und vertikale Konvergenz einstellen.
6. Befestigungsring durch rechtsdrehen sichern.

Dynamische Farbbilddeckungseinstellung
Dynamische Farbbilddeckung (Konvergenz der drei Farbfelder an den Rändern des CRT-Schirmes) wird durchgeführt mittels genauer Einführung und Positionierung von drei Gummikeilen zwischen der Ecke des Ablenkungsspulenjochs und dem Trichter der CRT (Kathodenstrahlröhre). Dies wird wie folgt durchgeführt:
1. Schalten Sie den Empfänger ein (ON) und lassen Sie ihn 15 Minuten lang anwärmen.
2. Laden Sie die VDU-Testsoftware (F3) und starten Sie das Testbild F9.
3. Kippen Sie das Ablenkungsspulenjoch hinauf oder hinunter und setzen Sie die Kipp-Einstellkeile (1) und (2) ein zwischen Ablenkungsspulenjoch und CRT, bis die Mißkonvergenz, beschrieben in Abbildung (A), korrigiert ist.
4. Kippen Sie das Ablenkungsspulenjoch rechts und links und setzen Sie den Kipp-Einstellkeil (3) zwischen Ablenkungsspulenjoch und CRT ein, bis die in Abbildung (B) gezeigte Mußkonvergenz korrigiert ist.
5. Ändern Sie wechselseitig den Freiraum dazwischen und die Tiefe des Einsatzes der drei Keile, bis eine gute Farbbilddeckungseinstellung erreicht ist.
6. Verwenden Sie einen guten Kleber, um jeden der drei Keile sicher an der Bildröhre zu befestigen.
7. Prüfen Sie die Farbreinheit und stellen Sie nach, wenn notwendig.

STATIC CONVERGENCE ADJUSTMENT
1. Switch the Receiver ON and allow it to warm up for 15 minutes.
2. Connect the output of a Crosshatch Generator to the receiver and, concentrating on the center of the CRT screen, proceed as follows:
a. Locate a pair of 4 pole magnet rings. Rotate individual rings (change spacing between tabs) to converge the vertical red and blue lines. Rotate a pair of rings (maintaining spacing between tabs) to converge the horizontal red and blue lines.
b. After completing red and blue center convergence, locate the pair of 6 pole magnet rings. Rotate individual rings (change spacing between tabs) to converge the vertical red and blue (magenta) and green lines. Rotate a pair of rings (maintaining spacing between tabs) to converge the horizontal red and blue (magenta) and green lines.

DYNAMIC CONVERGENCE ADJUSTMENT
Dynamic convergence (convergence of the three color fields at the edges of the CRT screen) is accomplished by proper insertion and positioning of three rubber wedges between the edge of the deflection yoke and the tunnel of the CRT. This is accomplished in the following manner.
1. Switch the Receiver ON and allow it to warm up for 15 minutes.
2. Apply crosshatch pattern from Dot/Bar Generator to receiver. Observ spacing between lines around edges of CRT screen.
3. Tilt the deflection yoke up or down, and insert tilt adjustment wedges (1) and (2) between the deflection yoke and the CRT until the mis-convergence illustrated in Figure 4 (A) has been corrected.
4. Tilt the deflection yoke right and left, and insert tilt adjustment wedge (3) between the deflection yoke and the CRT until the mis-convergence illustrated in Figure 4 (B) has been corrected.
5. Alternately change spacing between, and depth of insertion of the three wedges proper dynamic convergence is obtained.
6. Use a strong adhesive tape to firmly secure each of the three wedges to the funnel of the CRT.
7. Check purity and read just, if necessary.

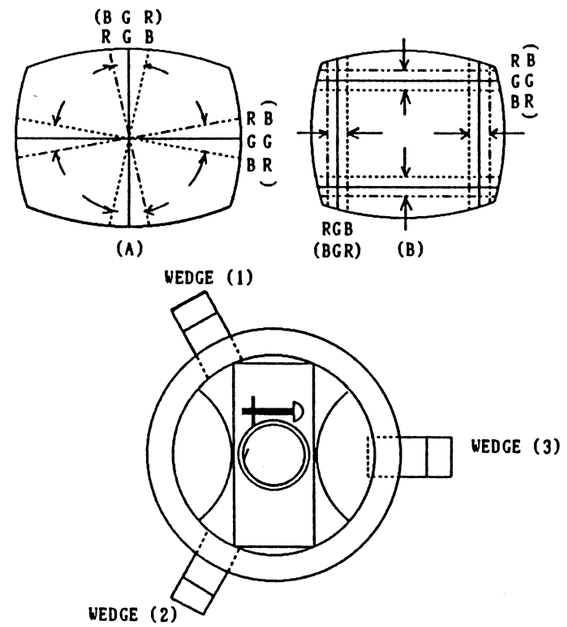
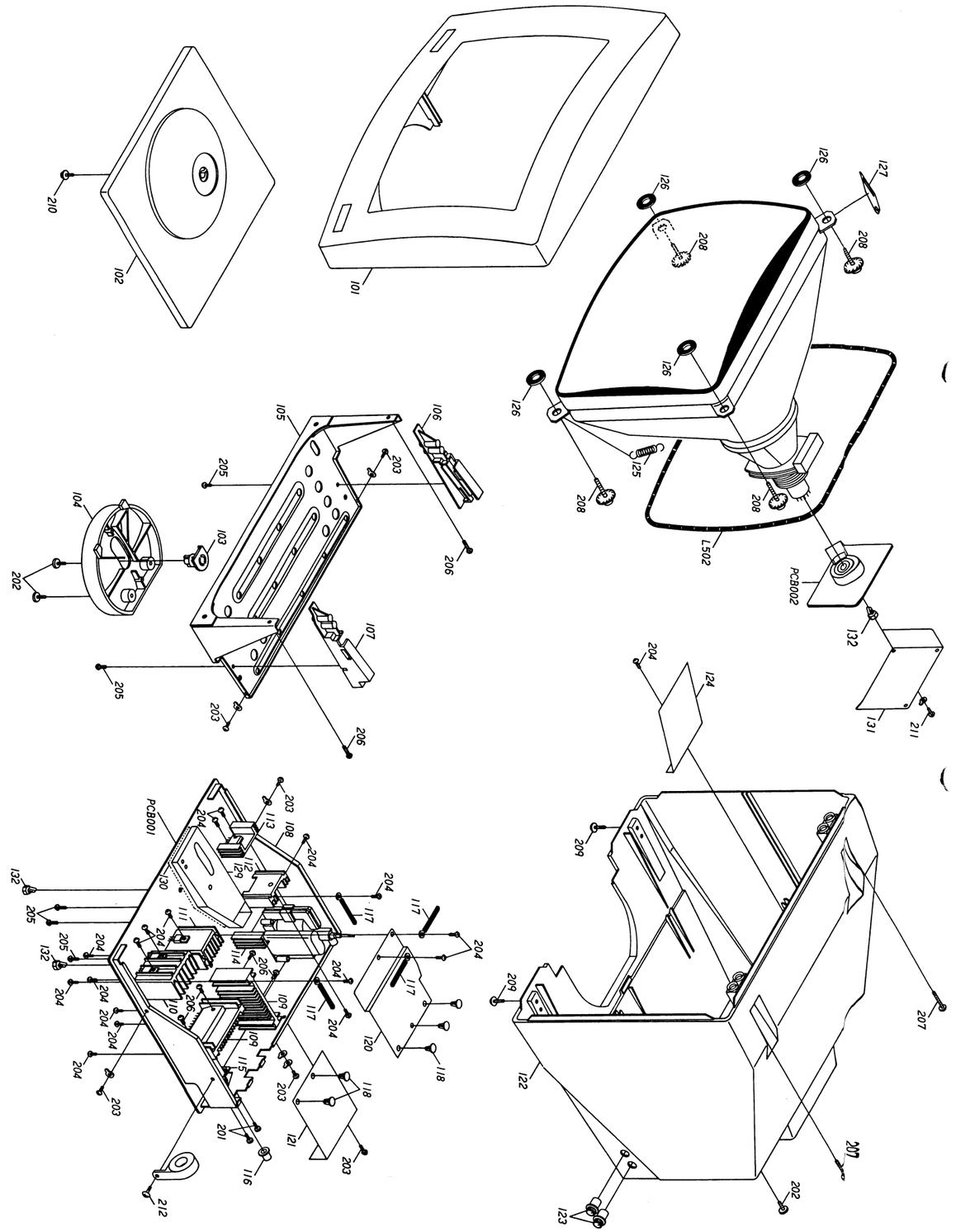


Figure 4 Dynamic Convergence Adjustment

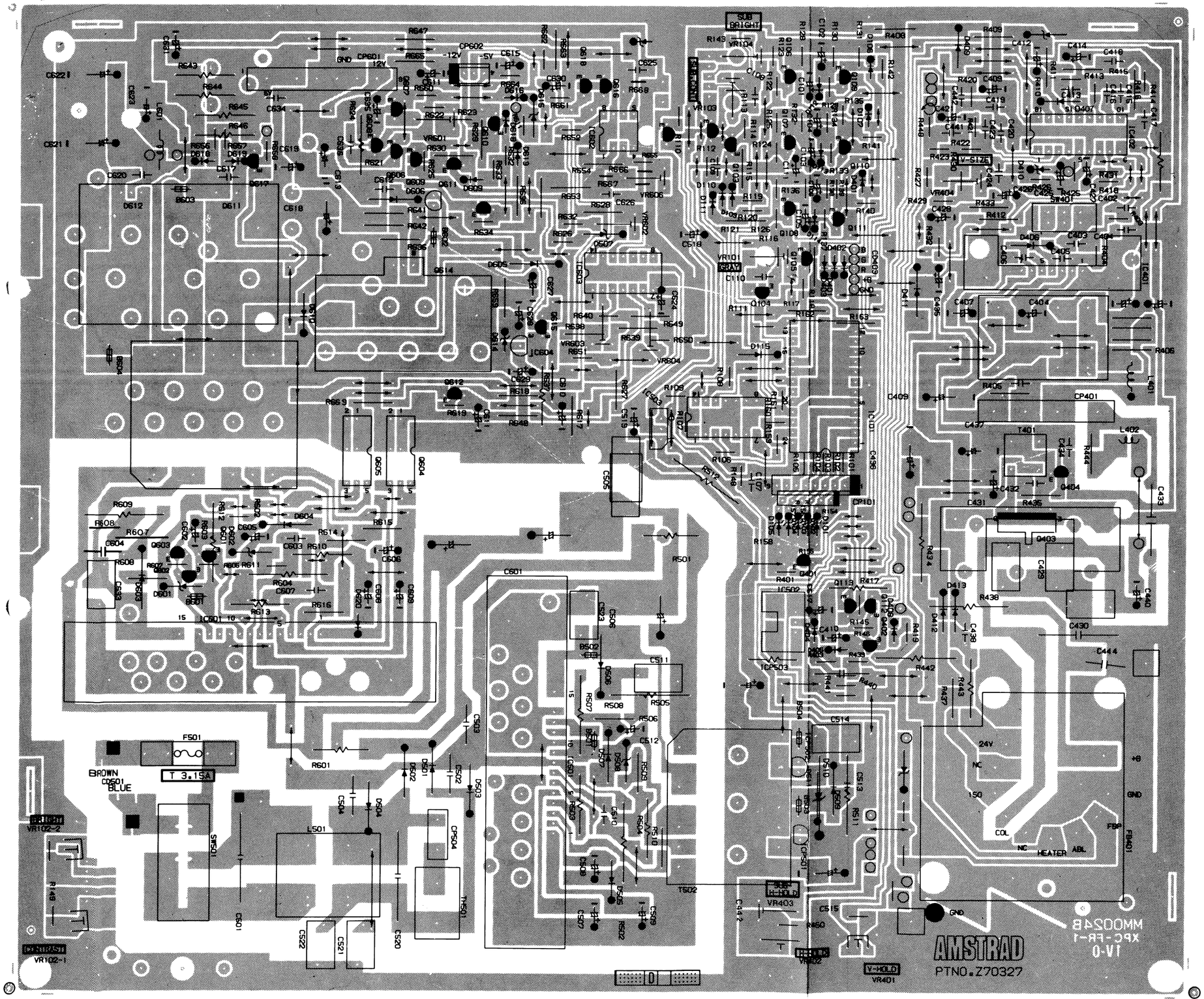
Ersatzteilliste für PC CM
Parts List for Model PC CM

Best.-Nr. Part-No.	Bezeichnung	Description		Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
3485100-431	Frontrahmen kpl.	CABINET, FRONT ASS'Y		A21303723	101
3485200-431	Frontrahmen	CABINET, FRONT		701KPA0068	
3485300-436	Schild Modell	PLATE, FRONT (R)		7230001436	
3485400-436	Schild Name	PLATE, FRONT (L)		7232530026	
		SHEET, FRAME BOTTOM		755KNA0003	
3490500-431	Gehäusefuß	STAND,BOTTOM		704KPA0012	102
3490900-4294	Halter Gehäusefuß	HOLDER, STAND		704KPA0016	103
3491000-431	Oberteil Gehäusefuß	STAND, TOP		704KPA0015	104
3485500-4294	Platinenhalter L	HOLDER, PCB (L)		762KPA0003	106
3485600-4294	Platinenhalter R	HOLDER, PCB (R)		762KPA0004	107
3491100-4282	Knopf Taste	BUTTON, PUSH		736KPA0001	116
3485700-431	Gehäuse Rückwand	CABINET, BACK		702KPA0108	122
3485800-4361	Typenschild	SHEET, RATING		7220000313	
3491500-436	Schild Netzschalter	SHEET, POWER SWITCH		7230001438	
3491600-436	Schild Vert./Hor. Frequenz	SHEET, V. H. HOLD		7230001440	
3491700-436	Schild Hell./Kontr.	SHEET, CONTROL		7230001441	
3491800-4281	Knopf Dreh	KNOB, VOLUME		732KPA0022	123
3485900-4162	Feder	SPRING, CRT EARTH		741KUA0028	125
3486000-4064	Scheibe	SHEET, CRT SUPPORT		800KR00009	126
		BIND	M3× 6 CH	8102230604	201
		BIND	M4× 8 CH	8102240804	202
		TAP TITE (S)	3× 6 CH	8107630604	203
		TAP TITE (P)	3×10 CH	8110630A04	204
		TAP TITE (P)	3×10 CH	8110130A04	205
		TAP TITE (P)	3×14 CH	8110130A44	206
		TAP TITE (P)	4×40 CH	8110140D04	207
		TAP TITE (P) PAN GW22	5×30 CH	8141150C04	208
		TAPPING (B0) TRUSS	4×16 CH	8117540A64	209
		TAPPING (B0) WH12	4×20 CH	8117F40B04	210
		TAPPING (B1) ROUND	3.5× 6 CH	8119135604	211
		TAP TITE (S)	4× 8 CH	8107540804	212
3486100-214	Folienbeutel	POLY, BAG		791KHA0050	–
3486200-213	Styropor oben	PACKAGE, TOP		792KHA0083	–
3486300-213	Styropor unten	PACKAGE, BOTTOM		792KHA0084	–
3486400-212	Faltkarton	GIFT, BOX		793KCD0236	–

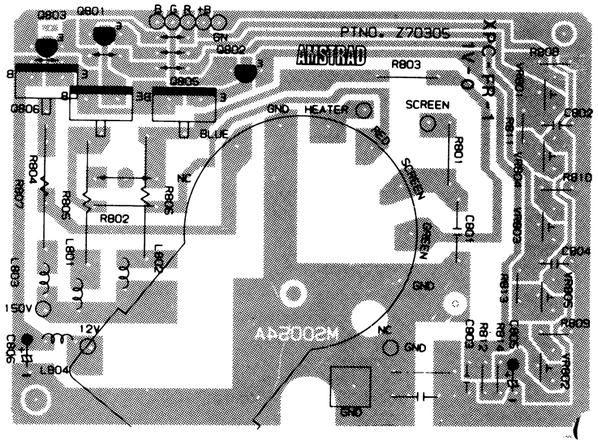
Mechanical exploded view



Main/CRT P.C.B.



CRT P.C.B.



SYMBOL LIST

RESISTOR	
SEMI-FIXED RESISTOR	
CAPACITOR	
JUMPER	

Best.-Nr. Part-No.	Bezeichnung		Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
IC					
3498300-302	IC	OEC9001	IC	127D09001A	IC101
3481700-302	IC	TC74HC02P	IC	155D0HC020	IC102
2661000-302	IC	UPC1378H	IC	102SD13780	⚠ IC401
3498400-302	IC	LA7820	IC	103D078200	⚠ IC402
3498500-302	IC	STK7356	IC	103S073560	⚠ IC501
2164106-302	IC	L78M12	IC	103A98M120	⚠ IC502
3226100-302	IC	L78M05	IC	103A98M050	⚠ IC503
3492500-302	IC	STK7358	IC	103S073580	⚠ IC601
3492600-302	IC	BA6993	IC	107D069930	IC602
2438900-302	IC	LA6324	IC	103D063240	IC603
3492700-302	IC	BA707	IC	1079907070	IC604
Transistoren / Transistors					
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q101
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q102
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q103
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q104
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q105
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q106
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q107
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q108
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q109
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q110
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q111
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q112
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q113
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q401
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q402
3498600-301	Transistor	2SD1426	TRANSISTOR	TD50014260	⚠ Q403
2661400-301	Transistor	2SC2271	TRANSISTOR, SILICON	TC30022710	Q404
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q601
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q602
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q603
3492800-3011	Optokoppler	TLP580	PHOTO COUPLER	0002500030	⚠ Q604
3492800-3011	Optokoppler	TLP580	PHOTO COUPLER	0002500030	⚠ Q605
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q606
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q607
2661600-301	Transistor	2SD1207-T	TRANSISTOR, SILICON	TD3T012070	Q608
2661600-301	Transistor	2SD1207-T	TRANSISTOR, SILICON	TD3T012070	Q609
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q610
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q611
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q612
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q613
3498700-301	Transistor	2SB1134R	TRANSISTOR, SILICON	TB3001134R	⚠ Q614
2661600-301	Transistor	2SD1207-T	TRANSISTOR, SILICON	TD3T012070	Q615
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q616
1295900-301	Transistor	2SA1015 Y-Type 1	TRANSISTOR, SILICON	TA5T010154	Q617
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q618
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q801
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q802
2613400-301	Transistor	2SC1815 Y	TRANSISTOR, SILICON	TC5T018154	Q803
3498800-301	Transistor	2SC3789	TRANSISTOR, SILICON	TC3F03789E	Q804
3498800-301	Transistor	2SC3789	TRANSISTOR, SILICON	TC3F03789E	Q805
3498800-301	Transistor	2SC3789	TRANSISTOR, SILICON	TC3F03789E	Q806
Dioden / Diodes					
3498900-3044	Z-Diode	MTZ6.8BT-77	DIODE, ZENER	D97U06R80B	D101
3498900-3044	Z-Diode	MTZ6.8BT-77	DIODE, ZENER	D97U06R80B	D102
3498900-3044	Z-Diode	MTZ6.8BT-77	DIODE, ZENER	D97U06R80B	D103
3498900-3044	Z-Diode	MTZ6.8BT-77	DIODE, ZENER	D97U06R80B	D104
3498900-3044	Z-Diode	MTZ6.8BT-77	DIODE, ZENER	D97U06R80B	D105
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D106
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D107
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D108
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D109
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D110

Best.-Nr. Part-No.	Bezeichnung		Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D111
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D112
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D113
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D114
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D115
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D401
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D402
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D403
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D404
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D405
3499000-304	Diode	DFD05G	DIODE, RECTIFIER	D23TDFD05G	D406
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D407
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D408
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D409
3499100-3044	Z-Diode	MTZ11BT-77	DIODE, ZENER	D97U01100B	D410
2656000-3043	Diode	BB4-FC	DIODE, RECTIFIER	D28F00BB40	D411
3499000-304	Diode	DFD05G	DIODE, RECTIFIER	D23TDFD05G	D412
3499000-304	Diode	DFD05G	DIODE, RECTIFIER	D23TDFD05G	D413
3201900-3041	Diode	20E10FA13	DIODE, SILICON	D28H20E100	⚠ D501
3201900-3041	Diode	20E10FA13	DIODE, SILICON	D28H20E100	⚠ D502
3201900-3041	Diode	20E10FA13	DIODE, SILICON	D28H20E100	⚠ D503
3201900-3041	Diode	20E10FA13	DIODE, SILICON	D28H20E100	⚠ D504
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	⚠ D505
3499200-304	Diode	DFC15L-KC5	DIODE, RECTIFIER	D23IDFC15L	D506
3493700-304	Diode	DFH10G-KB4	DIODE, RECTIFIER	D23FDFH10G	D507
3493600-3044	Z-Diode	GZB9.1B	DIODE, ZENER	D93019R11B	D508
3493700-304	Diode	DFH10G-KB4	DIODE, RECTIFIER	D23FDFH10G	⚠ D509
3499300-3041	Diode	30DF6 FC	DIODE, RECTIFIER	D28F30DF60	⚠ D510
2662700-3041	Diode	SR-2M	DIODE, AVARANSHU	D2BF00SR2M	D511
3493400-3044	Z-Diode	GZB18B	DIODE, ZENER	D93011801B	D601
3493600-3044	Z-Diode	GZB9.1B	DIODE, ZENER	D93019R11B	D602
3499200-304	Diode	DFC15L-KC5	DIODE, RECTIFIER	D23IDFC15L	D603
3493700-304	Diode	DFH10G-KB4	DIODE, RECTIFIER	D23FDFH10G	D604
3493700-304	Diode	DFH10G-KB4	DIODE, RECTIFIER	D23FDFH10G	D605
3493700-304	Diode	DFH10G-KB4	DIODE, RECTIFIER	D23FDFH10G	⚠ D606
3493800-3044	Z-Diode	GZA18 Y BT	DIODE, ZENER	D93T01800Y	D607
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D608
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D609
3499000-304	Diode	DFD05G	DIODE, RECTIFIER	D23TDFD05G	D610
3494000-304	Diode	F5KQ60	DIODE, SCHOTTKY BARRIER	D28A5KQ600	⚠ D611
3494100-304	Diode	F10P04Q	DIODE, SCHOTTKY BARRIER	D28A0P04Q0	⚠ D612
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D613
0687200-3044	Z-Diode	MTZ5.1BT-77	DIODE, ZENER	D97U05R10B	D614
0687200-3044	Z-Diode	MTZ5.6BT-77	DIODE, ZENER	D97U05R60B	D615
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D616
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D618
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	D619
3493000-3041	Diode	1SS132T-77	DIODE, SILICON	D17T001320	⚠ D620
Widerstände / Resistors					
3499400-3217	Sich.-Widerstand	100 ½ W	R, FUSE	R61582101J	⚠ R147
3494300-3212	Schiwi	75 ½ W	RC	R01202750J	R154
3494300-3212	Schiwi	75 ½ W	RC	R01202750J	R155
3494300-3212	Schiwi	75 ½ W	RC	R01202750J	R156
3494300-3212	Schiwi	75 ½ W	RC	R01202750J	R157
3494300-3212	Schiwi	75 ½ W	RC	R01202750J	R158
2471400-3217	Sich.-Widerstand	100 ¼ W	R, FUSE	R61584101J	⚠ R412
3207100-321	Metallschiwi	4.7 K 2 W	R, METAL OXIDE	R3118A472J	⚠ R434
2659500-3217	Sich.-Widerstand	8.2 ¼ W	R, FUSE	R615848R2J	⚠ R437
3499500-321	Metallschiwi	4.7 3 W	R, METAL OXIDE	R3120B4R7J	⚠ R438
3248300-3217	Sich.-Widerstand	0.82 1 W	R, FUSE	R61481R82K	⚠ R442
3253000-3217	Sich.-Widerstand	1 ½ W	R, FUSE	R63582010J	⚠ R443
3499400-3217	Sich.-Widerstand	100 ½ W	R, FUSE	R61582101J	⚠ R444
3494600-3219	Widerstand	5.6 5 W	R, CEMENT	R512AD5R6J	⚠ R501
3206700-321	Metallschiwi	1 3 W	R, METAL OXIDE	R3128B010J	⚠ R502
3499600-321	Metallschiwi	3.9 K 1 W	R, METAL OXIDE	R31181392J	⚠ R503
3499700-321	Metallschiwi	3.3 K 1 W	R, METAL OXIDE	R31181332J	⚠ R504
3499800-321	Metallschiwi	100 2 W	R, METAL OXIDE	R3118A101J	R507
3499900-321	Metallschiwi	33 K 2 W	R, METAL OXIDE	R3118A333J	R508
3482100-3217	Sich.-Widerstand	470 ½ W	R, FUSE	R61582471J	⚠ R509
3228600-3217	Sich.-Widerstand	10 ¼ W	R, FUSE	R61584100J	⚠ R510

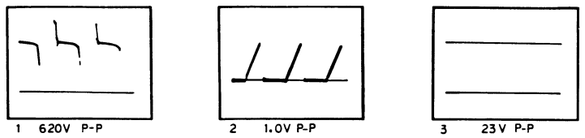
Best.-Nr. Part-No.	Bezeichnung			Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
3207600-321	Metallschiwi	15	2 W	R, METAL OXIDE	R3E10A150J	R511
3482000-321	Metallschiwi	68	2 W	R, METAL OXIDE	R3E10A680J	⚠ R512
3494600-3219	Widerstand	5.6	5 W	R, CEMENT	R512AD5R6J	⚠ R601
3206900-321	Metallschiwi	0.33	2 W	R, METAL OXIDE	R3118AR33J	⚠ R604
3494700-321	Metallschiwi	82 K	1 W	R, METAL OXIDE	R3D301823J	R607
3494900-321	Metallschiwi	22 K	3 W	R, METAL OXIDE	R3128B223J	R609
2659900-321	Metallschiwi	1 K	1 W	R, METAL OXIDE	R31181102J	⚠ R610
3481900-321	Metallschiwi	100	2 W	R, METAL OXIDE	R3118A101J	R612
3495000-321	Metallschiwi	2.2 K	1 W	R, METAL OXIDE	R31181222J	⚠ R613
1862600-3217	Sich.-Widerstand	1 K	¼ W	R, FUSE	R63584102J	⚠ R614
3228600-3212	Sich.-Widerstand	10	¼ W	R, FUSE	R61584100J	⚠ R616
3495100-321	Metallschiwi	47	1 W	R, METAL OXIDE	R31181470J	R624
3495200-321	Metallschiwi	56	1 W	R, METAL OXIDE	R31181560J	⚠ R637
3495300-321	Metallschiwi	0.22	½ W	R, METAL OXIDE	R31202R22J	R641
3495300-321	Metallschiwi	0.22	½ W	R, METAL OXIDE	R31202R22J	R642
3495400-321	Metallschiwi	0.22	1 W	R, METAL OXIDE	R31181R22J	R643
3495400-321	Metallschiwi	0.22	1 W	R, METAL OXIDE	R31181R22J	R644
3495400-321	Metallschiwi	0.22	1 W	R, METAL OXIDE	R31181R22J	R645
3495400-321	Metallschiwi	0.22	1 W	R, METAL OXIDE	R31181R22J	R646
3481800-321	Metallschiwi	5.6 K	2 W	R, METAL OXIDE	R3110A562J	⚠ R805
3481800-321	Metallschiwi	5.6 K	2 W	R, METAL OXIDE	R3110A562J	⚠ R806
3481800-321	Metallschiwi	5.6 K	2 W	R, METAL OXIDE	R3110A562J	⚠ R807

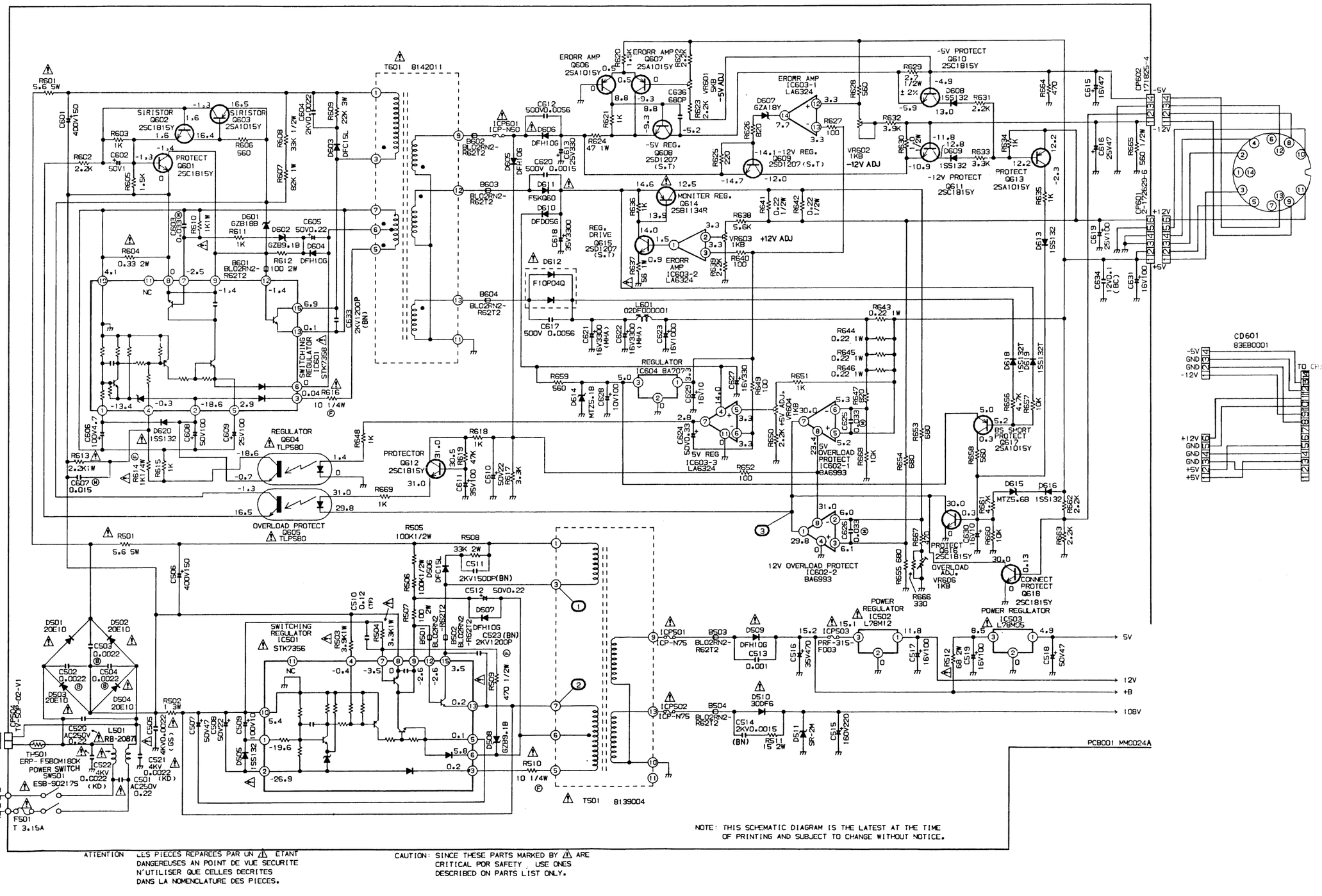
Kondensatoren / Capacitors

0148000-311	Foko	0.1	µF 100 V	CP	P12201104K	C404
1194300-307	Elko	2200	µF 35 V	CE	E02104222M	C408
1194000-311	Foko	0.0056	µF 50 V	CPL	P541F0562J	C424
3483600-314	Kerko	470	pF 2 KV B	CC	C03FB07Q2K	C429
3102100-311	Foko	0.0082	µF 1600 V	CMPP	P442F9822J	C430
3483700-311	Foko	0.82	µF 200 V	CMPP	P441F2824J	C433
3483200-307	Elko	22	µF 250 V	CE	E0C5FD220T	C436
1190300-307	Elko	1000	µF 35 V	CE	E027F4102M	C437
3483500-311	Foko	0.1	µF 200 V	CPP	P341F2104J	C439
3208500-307	Elko	1	µF 250 V	CE	E0250D010M	C440
3483400-314	Kerko	330	pF 2 KV	CC	C03BBN7L2K	C444
3495900-311	Foko	0.22	µF AC 250 V	CMPL	P614FB224M	⚠ C501
2664660-314	Kerko	0.0022	µF 2 KV B	CC	C02BB07H3K	C502
2664600-314	Kerko	0.0022	µF 2 KV B	CC	C02BB07H3K	C503
2664600-314	Kerko	0.0022	µF 2 KV B	CC	C02BB07H3K	C504
2664900-314	Kerko	2200	pF 4 KV	CC	C010D09H3M	⚠ C505
3496000-307	Elko	150	µF 400 V	CE	E03L0H151M	C506
0354900-307	Elko	10	µF 100 V	CE	E0B108100M	C509
2664700-314	Kerko	0.0015	µF 2 KV BN	CC	C03FBN7E3K	C511
2664700-314	Kerko	0.0015	µF 2 KV BN	CC	C03FBN7E3K	C514
3248700-307	Elko	220	µF 160 V	CE	E0250B221T	C515
0588400-307	Elko	470	µF 35 V	CE	E02104471M	C516
3495900-311	Foko	0.22	µF AC 250 V	CMPL	P614FB224M	⚠ C520
2664900-314	Kerko	0.0022	µF 4 KV	CC	CA30E09H3K	⚠ C521
2664900-314	Kerko	0.0022	µF 4 KV	CC	CA30E09H3K	⚠ C522
3483300-314	Kerko	0.0012	µF 2 KV	CC	C03BBN7B3K	C523
3496000-307	Elko	150	µF 400 V	CE	E03L0H151M	C601
2664600-314	Kerko	0.0022	µF 2 KV B	CC	C02BB07H3K	C604
3496200-314	Kerko	0.0056	µF 500 V B	CC	C020B05S3K	C612
0590500-307	Elko	330	µF 25 V	CE	E02H03331M	C613
3496200-314	Kerko	0.0056	µF 500 V B	CC	C020B0553K	C617
0587600-307	Elko	3300	µF 35 V	CE	E02SG4332M	C618
3481600-314	Kerko	0.0015	µF 500 V B	CC	C020B05E3K	C620
3496300-307	Elko	3300	µF 16 V	CE	E02HF2332M	C621
3496300-307	Elko	3300	µF 16 V	CE	E02HF2332M	C622
0323500-307	Elko	1000	µF 16 V	CE	E02102102M	C623
3483300-314	Kerko	0.0012	µF 2 KV BN	CC	C03FBN7B3K	C633
2665000-314	Kerko	0.001	µF 2 KV BN	CC	C02BB0713K	C801

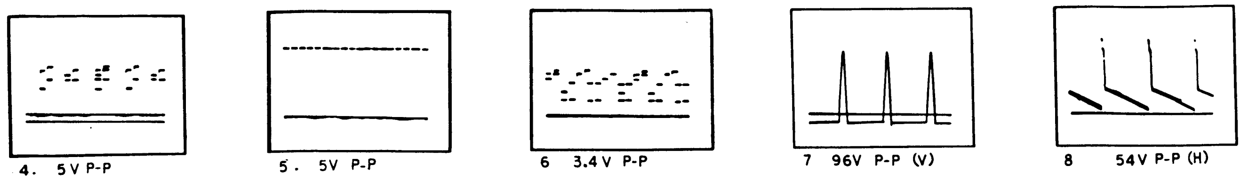
Best.-Nr. Part-No.	Bezeichnung		Description	Teile-Nr. Part-No.	Zeich.-Pos. Ref.-No.
Spulen und Transformatoren / Coils and Transformers					
3482200-3253	Spule	1431 MS	COIL, LINEARITY	0221000002	L401
3482300-3253	Spule	4.7 mH	COIL, RX-9P-472K	021804472K	L402
3482400-3253	Filter	ESD-R-25D-B1	FILTER, LINE AC	02AX2614F2	L403
3496600-3252	Spule	RB-20871	COIL, LINE FILTER	0291000001	⚠ L501
3482500-3253	Spule	028Y140017	COIL, DEGAUSS	028Y140017	⚠ L502
3482600-3253	Filter	ESD-R-25D-B1	FILTER, LINE AC	02AX2614F2	L503
3496700-3253	Spule	SN5-2002	COIL	02DF000001	L601
3482700-3253	Spule	100 µH	COIL, EL0606RA-101K	021673101K	L801
3482700-3253	Spule	100 µH	COIL, EL0606RA-101K	021673101K	L802
3482700-3253	Spule	100 µH	COIL, EL0606RA-101K	021673101K	L803
2663400-3243	Trafo Hor.	305Y001	TRANS, HORIZONTAL DRIVE	03305Y001G	T401
3482800-3244	Trafo Schaltnetzteil	8139004	TRANSFORMER, SWITCHING	048139004G	⚠ T501
3482900-3244	Trafo Schaltnetzteil	8142011	TRANSFORMER, SWITCHING	048142011G	⚠ T601
Verschiedenes / Miscellaneous					
3483000-3231	Poti 500 Ω		VR, ROTARY	V029200001	VR102
3483100-3231	Poti 100 KΩ		VR, ROTARY	V028025B04	VR401
3483800-502	Platine-Monitor		PCB	13MM0024AB	PCB001
3483900-502	Platine-Bildröhre		PCB	13MS0054AB	PCB002
2663800-3274	Schiebeschalter		SWITCH, SLIDE SS-009-7H	0510422001	SW401
3497500-3272	Netzschalter		SWITCH, PUSH ESB-90217S	0530105005	⚠ SW501
3484000-3328	Sockel Bildröhre		SOCKET, C.R.T.	0662130002	⚠ J801
3484100-3328	Sockel		SOCKET, COVER CRT	0662320001	JC801
3484200-360	Bildröhre		TUBE, CATHODE RAY	093E140401	⚠ V801
0606400-3301	Sicherung 3.15 AT		FUSE 3.15 AT	0809T3R101	⚠ F501
3484300-3244	Trafo Zeilen		TRANSFORMER, FLYBACK	0437140131	⚠ FB401
3203900-302	ICP-N75		IC PROTECTOR	084702R702	⚠ ICP501
3203900-302	ICP-N75		IC PROTECTOR	084702R702	⚠ ICP502
3484500-302	PRF-315-F003		IC PROTECTOR	084E00R301	⚠ ICP503
3497800-302	ICP-N50		IC PROTECTOR	0847000202	⚠ ICP601
3484400-301	Thermistor		DEGAUSS ELEMENT	D810M180K0	TH501
3484600-3173	Kondensator-Netzwerk		C-NETWORK	1112510101	CN101
3484700-341	Kabel RGB		CORD DIN	0683EB0002	CD101
3498000-341	Netzkabel		CORD AC	120L451007	⚠ CD501
3484800-341	Kabel DC		CORD DIN	0683EB0001	CD601
3498200-3323	Buchse		CONNECTOR PCB SIDE	0694190019	CP101
3484900-3323	Buchse DC		CORD UX CONNECTOR	0694460100	CP601

Chassis schematic diagram CM




T601 8142011
ERORR AMP Q606 2SA1015Y
ERORR AMP Q607 2SA1015Y
ERORR AMP IC603-1 LA6324
-5V PROTECT Q610 2SC1815Y
SIRISTOR Q602 2SC1815Y
SIRISTOR Q603 2SA1015Y
PROTECT Q601 2SC1815Y
-5V REG. Q608 2SD1207 (S,T)
-14.1~12V REG. Q609 2SD1207(S,T)
-12V PROTECT Q611 2SC1815Y
PROTECT Q613 2SA1015Y
MONITER REG. Q614 2SB1134R
REG. DRIVE Q615 2SD1207 (S,T)
ERORR AMP IC603-2 LA6324
REGULATOR IC604 BA7073
5V REG IC603-3 LA6324
5V OVERLOAD PROTECT IC602-1 BA6993
12V OVERLOAD PROTECT IC602-2 BA6993
OVERLOAD PROTECT Q605 TLP580
REGULATOR Q604 TLP580
PROTECTOR Q612 2SC1815Y
SWITCHING REGULATOR IC501 STK7356
SWITCHING REGULATOR IC601 STK7358
SHORT PROTECT Q617 2SA1015Y
CONNECT PROTECT Q618 2SC1815Y
POWER REGULATOR IC502 L78M12
POWER REGULATOR IC503 L78M05
CD601 83EB0001
TO CP1-B
PCB001 MM0024A
AC IN 220V 50HZ 120L451007
POWER SWITCH SW501 ESB-90217S (KD)
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.
ATTENTION LES PIECES REPEREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.
CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL POR SAFETY , USE ONES DESCRIBED ON PARTS LIST ONLY.

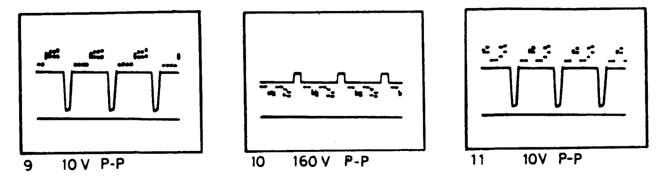
Chassis schematic diagram CM

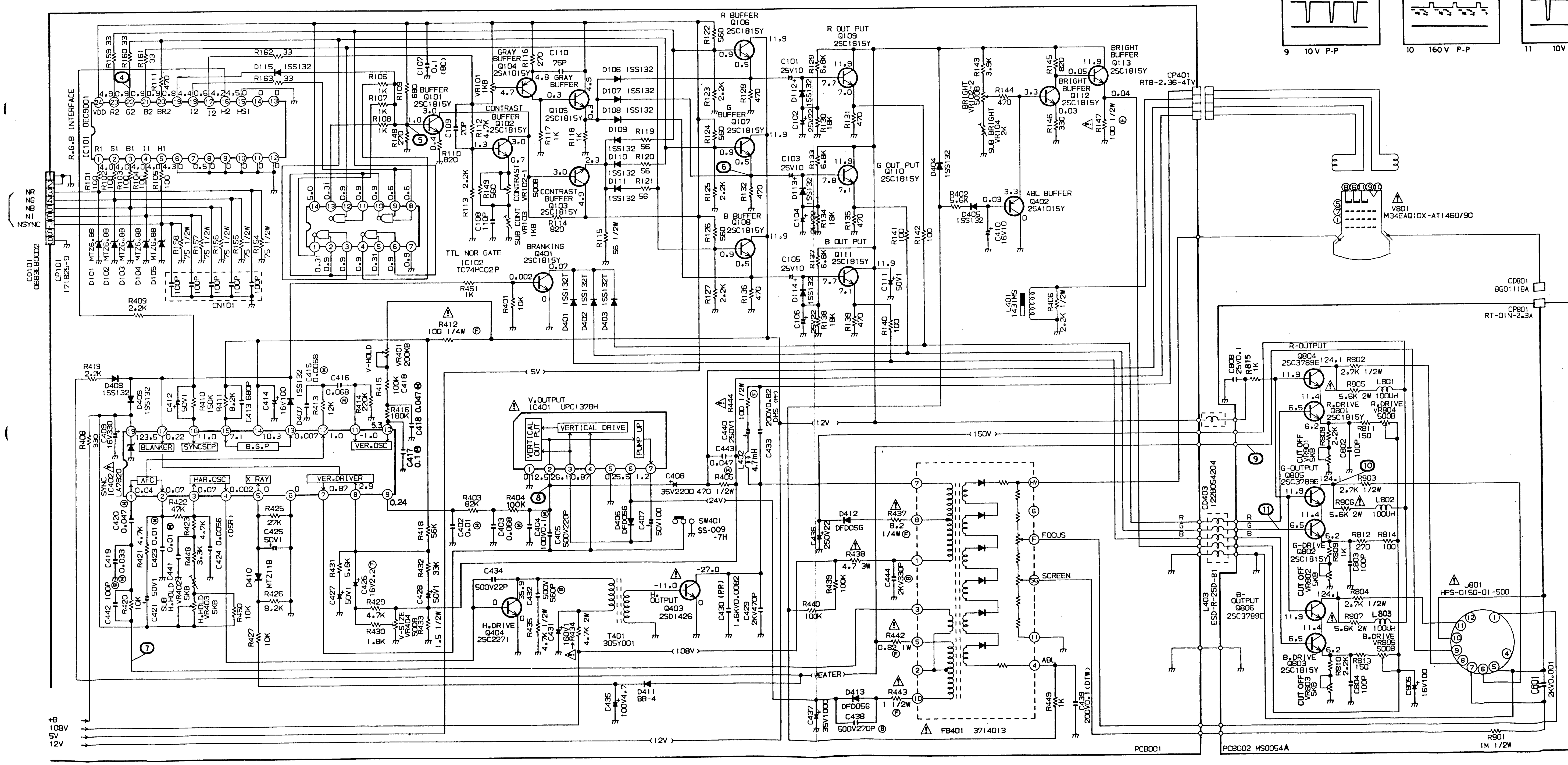


CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

ATTENTION LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.





R.G.B INTERFACE
IC101 OEC9001
TTL NOR GATE
IC102
TC74HC02P
GRAY BUFFER Q104 2SA1015Y
BUFFER Q101 2SC1815Y
CONTRAST BUFFER Q102 2SC1815Y
CONTRAST BUFFER Q103 2SC1815Y
BRANKING Q401 2SC1815Y
R BUFFER Q106 2SC1815Y
G BUFFER Q107 2SC1815Y
B BUFFER Q108 2SC1815Y
R OUT PUT Q109 2SC1815Y
G OUT PUT Q110 2SC1815Y
B OUT PUT Q111 2SC1815Y
BRIGHT BUFFER Q112 2SC1815Y
BRIGHT BUFFER Q113 2SC1815Y
ABL BUFFER Q402 2SA1015Y
CP401 RTB-2.36-4TV
V801 M34EAQ10X-AT1460/90
CD801 8G01118A
CP801 RT-01N-2.3A
SYNC IC402 LA7820
BLANKER
SYNCSEP
B.G.P
VER.OSC
AFC
HAR.OSC
X RAY
VER.DRIVER
V.OUTPUT IC401 UPC1378H
VERTICAL DRIVE
VERTICAL OUT PUT
PUMP UP
H.DRIVE Q404 2SC2271
H. OUTPUT Q403 2SD1426
T401 305Y001
FB401 3714013
HV
FOCUS
SCREEN
ABL
HEATER
CD403 122B054204
L403 ESD-R-25D-B1
R-OUTPUT Q804 2SC3789E
R.DRIVE Q801 2SC1815Y
G-OUTPUT Q805 2SC3789E
G-DRIVE Q802 2SC1815Y
B-OUTPUT Q806 2SC3789E
B.DRIVE Q803 2SC1815Y
J801 HPS-0150-01-500
PCB001
PCB002 MS0054A
+B
108V
5V
12V

Technische Änderungen vorbehalten!